

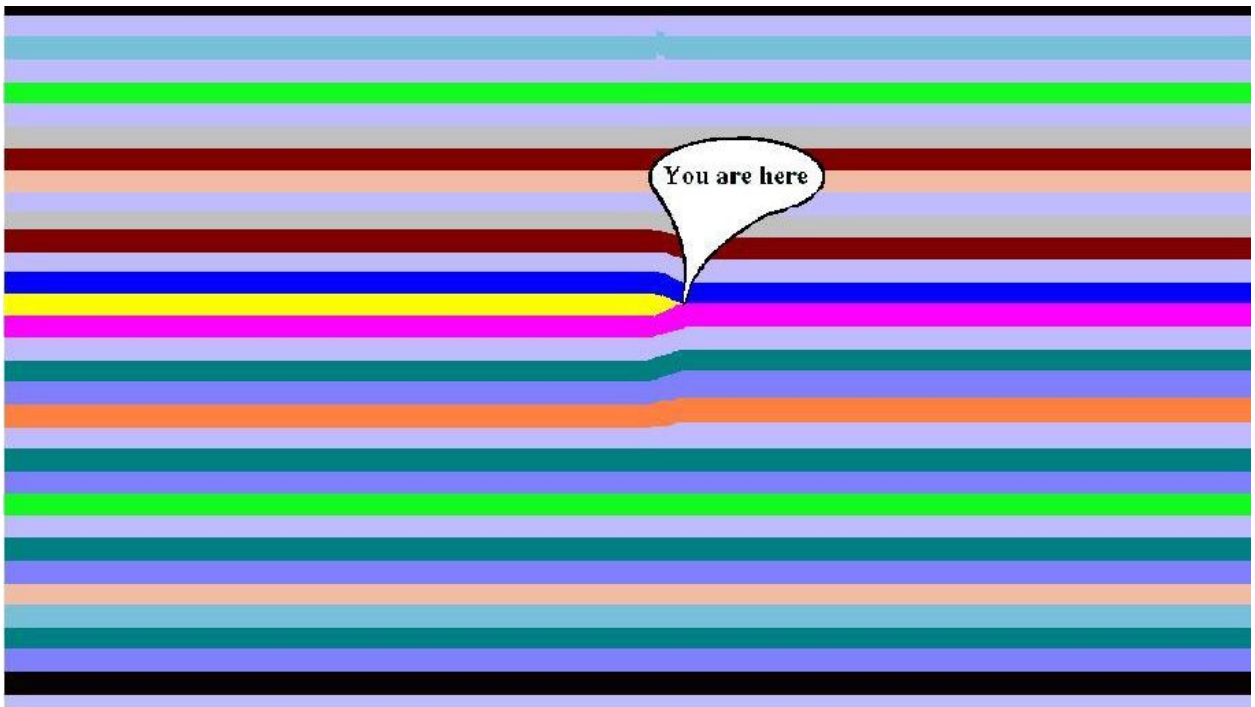
QUASI UNIVERSE

The Universe on the edge of Daleth,
Another Cosmological Paradigm ?

Draft 88

by

Jack Wenger



First rendition “Bart’s Model” © 1981

Revision “Quasiuniverse” © 1997

This major revision “Quasi Universe: Notes on A Cosmological Fantasy © 2012

Jack B. Wenger

This is still in progress but I’ve made it available for comments, suggestion and use by those who may find the paradigm interesting

Comments and suggestion may be sent to jbartw@gmail.com

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Preface

Quasi universe changes very little. It is simply another perspective on the standard model and provides substance to field theory. The mathematics involved should be the similar, although this perspective may provide some shortcuts and may even eliminate the need for “normalization”, perhaps not. I think that it makes many of the observed characteristics of cosmology, quantum mechanics and particle physics more intuitive. As far as I can tell it, agrees with observations as reported in the popular press and the texts that I have read. Others may find major flaws in its presentation. If that is the case, I am happy. At least they have read it.

The diagram, on the title page above, represents a cross section of the layers within a 5space hyper sphere. Lines represent 4spaces, the areas between lines represent 5spaces and the point where the lines meet represents a 3space or volume.

The convention used within this document is that a 5space hyper sphere has a curved 4space (4 dimensional) surface that encloses a 5space hyper (5 dimensional) volume just as a 3space sphere has a 2space (2 dimensional) or planar surface that encloses a 3space (3 dimensional) volume.

The layers within the 5space sphere also have curved 4space surfaces or interfaces.

The yellow layer is a 5space fluid that is intruding between two others. The region at which the intruder separates the other two and where all layers meet is a volume or 3space.

The intruder rubs against the other two layers and creates shear which is expressed as an extremely fine texture of vortices. This is the primary field, an ocean of energy similar to the Higgs field in our universe.

These vortices create and follow wakes of distortion or torque at the interfaces between the intruder and the other two layers.

The shear vortices and their wakes are the ingredients that make up vastly larger objects and fields much in the way that grains of sand and cement make up the foundations of a building.

These large objects and fields mimic the particles and fields in our universe

The paradigm suggests some solutions to apparent problems of today’s physical theories.

It suggests a variable rate of expansion of the quasi universe and provides a source for its dark energy. It goes further in that it links dark energy, gravitation and universal expansion together.

It provides a structure for a three or four quark system that does not need fractional charge. Debris from collisions would imply the three 5D partitions created by the intrusion of Daleth and should be similar to the debris that implies the three quark model in our universe. Quasi universe allows the Daleth partition to have zero charge because it may contain two matter swarms of opposing charges and intrinsic spin.

These extra swarms may behave like our “sea quarks”.

The properties of photonic and matter swarms allow us to easily visualize these objects as “particle-waves”. There are no conflicts here. And it is easy to visualize shear vortices as the currency for the conversion of matter to energy and vice versa. Their fluidity as swarms requires that their interactions to be described in terms of probabilities, complex interference and quasi quantum states

What follows below is rational for this scenario.

I am not under the illusion that I have everything right. These are simply suggestion as to how one might approach the paradigm.



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This is a very brief description using a fish tank as an example to suggest some of the reasoning behind the Quasiuniverse.

This section also suggests some common properties of spacial interfaces as to how spacial qualities can determine spacial interfaces. Describes some common relationships between observable lower spacial interfaces to observable higher spacial interfaces (1 through 3) and then speculates as to how these relationships might apply to even higher spacial interfaces (4 and 5) within the quasi universe. Conclusion:

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Spacial Dimensions as Interfaces

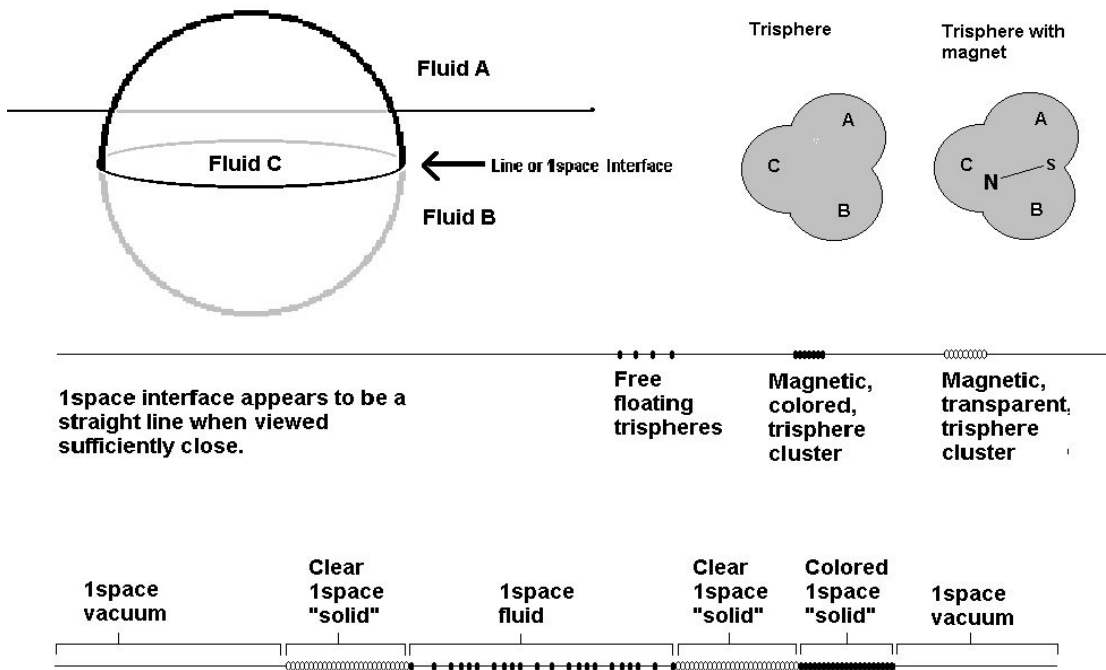
When we measure an object, let's say a cube, we measure its interfaces, that is, its planes and say that it has x, y, and z dimensions where x and y are the sides of a plane and z is the cube's depth. Its volume is the product of these values. In our universe the planes are the interfaces of the volume's contact with the rest of the world. The volume itself, is something different.

An occupant of the quasi universe sees it differently. For him the volume is also an interface. So the basic rule, of the quasi universe is: All spaces are interfaces. Within the quasi universe points, lines, planes, volumes, hypervolumes, 5spaces, 6space, etc. are all interfaces.

I need to define what I mean by "spacial interface"

Imagine a situation where fluids "A", "B" and "C" are not miscible with each other such as would be seen with oil and water (see diagram below). Fluid "A" is layered over fluid "B". Fluid "C" is introduced as a bubble that doesn't mix with either fluid "A" or "B". Allow fluid "C" to have a density such that it stays at the interface between the other two fluids. Half of this bubble is in "A", half is in "B". There would be a line or 1space "spacial interface" at the intersection of the three fluids.

Add to this some small objects that consist of three dissimilar balls glued together. One ball is attracted to "A", one is attracted to "B" and the third attracted to "C". Let's call them "trispheres". Place them at the interface formed by fluids A, "B" and "C". Their attractive characteristics should keep them at the 1space interface. Thus they are held in place on the line and they have one degree of freedom along this line. If there was no particular attraction between these " trispheres" they would eventually just become dispersed around the bubble. If these " trispheres" repelled each other they would be analogous to a gas. If they had weak attraction for each other, they would be analogous to a liquid. Lets add some stronger forces to other "trispheres ". Add groups that have tiny magnets in which the north pole is to the left along the line and the south pole is to the right. They should be attracted to each other and form linear clusters. These clusters could be viewed as analogous to solids in 3space in that they must always move as a group. There are point (0spaces) spacial interfaces between these "solid" clusters and the "empty" or vacuum 1space interface outside of them. Add clusters that have other characteristics such as transparency and color. Swing one cluster around the bubble so that all of the free floating " trispheres " are contained between two clusters. The space outside of the clusters without " trispheres " could be viewed as analogous to a vacuum in 3space.



So there are points or 0space interfaces on this line where the quality of the 1space (or line) changes from empty (or vacuum) to cluster (or solid).

There are also point spacial interfaces on this line where the quality of the 1space changes from transparent cluster to colored cluster.

There are points on this line where the spacial quality changes from cluster (transparent or colored) to free moving " trispheres" (or fluid).

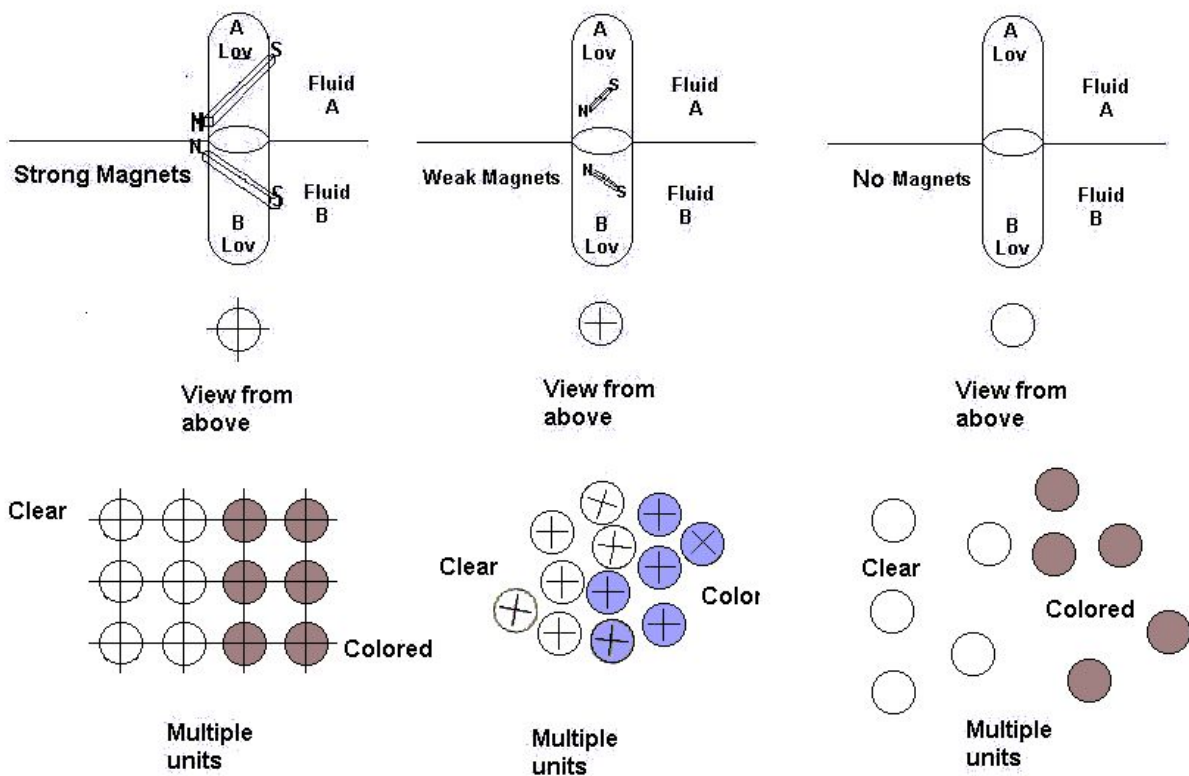
There are points on this line points where spacial quality changes from free moving " trispheres" to cluster.

And there are points where spacial quality changes from cluster to empty (or vacuum).

I could have used magnetic and non magnetic beads on a string to illustrate this concept but I wished to introduce this spacial pattern (three higher spacial interfaces around a lower space). It will be used later. In addition if this were truly a 1space model, the trispheres would not be separate from the fluids but exist as systems of resonant turbulence or configurations around the 1space. They would be viewed as perturbations of the 1space that behave as though they were trispheres. This will be addressed in greater detail later.

Imagine a situation in which there is a thick layer of oil floating on water. The interface between oil and water would be a plane (or 2space). Add to this, nano rods that are attracted to water on one end and to oil on the other, similar to phospholipids of cellular membranes in our universe. The rods would tend to collect at the planar interface and stay there. They could move freely along the plane but they would have difficulty moving above or below it. Add magnets to some of the rods in such a way that they can form clusters. Allow some of these clusters to be inflexible. That is every unit maintains its position relative to the units around it. Shield the magnet on some clusters in such a way that they have a flexible attraction to each other. That is units although attracted to each other will shift freely within the cluster. Now make some clusters colored and others transparent.

Suggested 2space bonding patterns



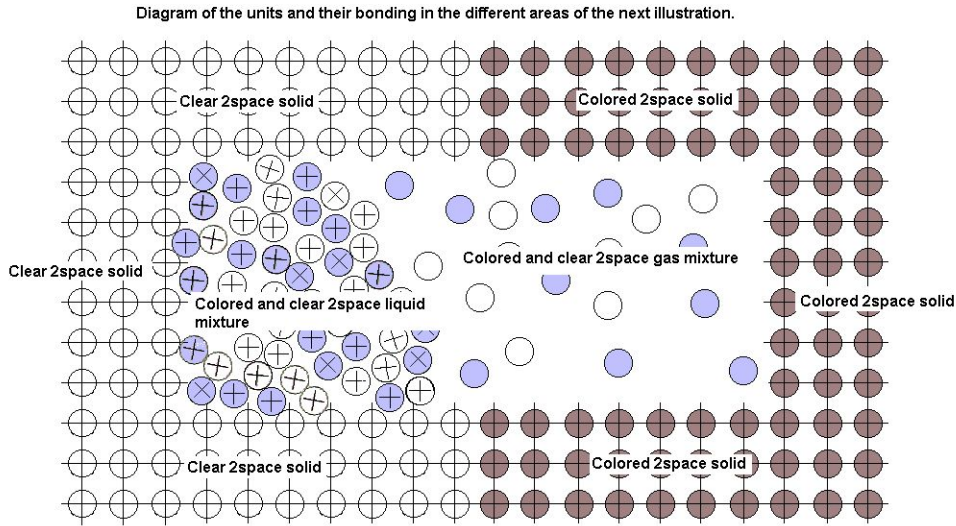
Call the rods without magnets, "2space gas". Call the rods that move freely within their clusters,

"2space liquid". Call the rods that are bound inflexibly, "2space solid". Call those areas of the plane between water and oil where there are no rods, "2space vacuum".

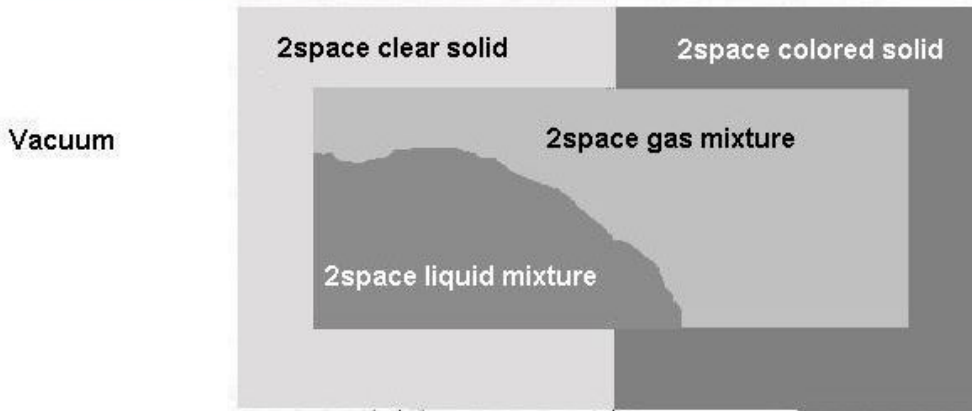
Assemble these rods to form the following objects.

A very thick ring of "2space solid", half colored, half clear.

Fill the interior with "2space gas" and a blob of "2space liquid".



Units are too small to see individually



Move
above and
away from

this assemblage until you can no longer see the individual units but only the objects they create.

Paraphrase:

There are linear interfaces (1spaces) on this plane where the quality of the plane (2space)

changes from empty (vacuum) to cluster (solid).

There are points on this plane where the quality of a line (1space) changes from transparent solid and vacuum to colored solid and vacuum.

There are linear interfaces on this plane where the spacial quality changes from cluster (transparent or colored) to free moving (or gas).

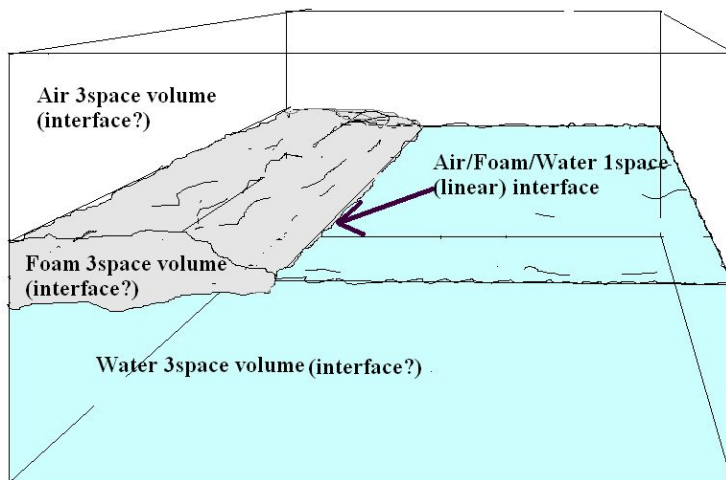
And there are linear interfaces on this plane where spacial quality changes from gas to liquid.

I will not cover all spacial relationships but within the quasi universe lower dimensional interfaces could be part of higher dimensional objects.

Some Other Ideas

The Fish Tank

Within the quasi universal model I am treating all spacial systems as complex interfaces. I may occasional revert to traditional nomenclature but for the most part I will be thinking of them (and I hope the reader can also) as interfaces.



Imagine a large fish tank half full of water (no fish). There is a planar interface between the water and air. Introduce heavy foam at one end of the fish tank. I want it to be heavy enough to settle a little bit below the water and air interface but also to have some of its volume extend above this interface. Allow the foam to start moving toward the other end of the fish tank. The forward edge of the foam that intrudes between the air and the water contains a linear interface where water, air and

foam meet.

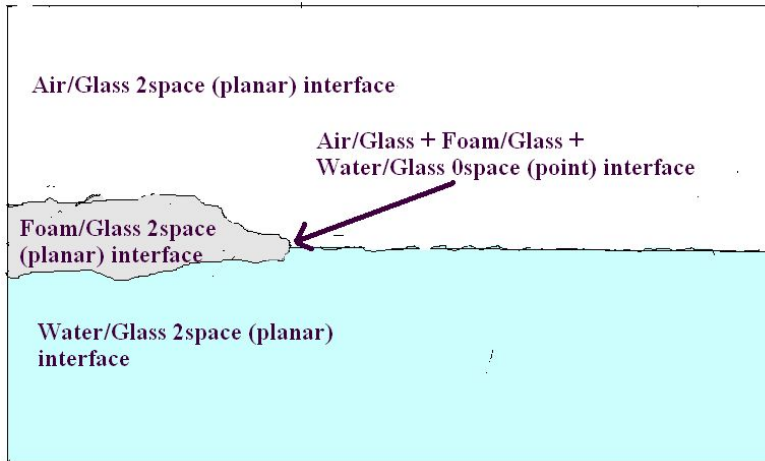
Notice:

One 3space (volume) can intrude between two other 3spaces and where it intrudes there is a 1space (linear) interface where all three 3spaces (volumes) meet.

I call volumes 3spaces because they have three axes each of which is perpendicular to the other two.

I will be suggesting below that within the quasi universe interfaces are also 3space, so this observation might possibly read: One 3space interface could intrude between two other 3space interfaces and where it intrudes there is a 1space (linear) interface where all three 3space interfaces meet.

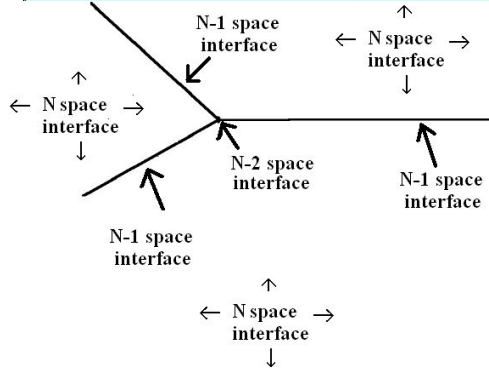
Now back to the fish tank.



The glass of the fish tank forms planar interfaces with the water, foam and air. There are three. One is between water and glass. One is between air and glass. And one is between foam and glass. They are contiguous but still different interfaces.

The foam/glass 2space (planar) interface is intruding between the air/glass and water/glass 2spaces (interfaces). I am calling these interfaces 2space because they

have only two axes, one of which is perpendicular to the other. The forward edge of the foam/glass 2space interface that intrudes between the air and the water 2space interfaces contains a 0space (point) interface where water, air and foam all meet.



This suggests another observation.

One 2space (planar) interface can intrude between two other 2space interfaces and where it intrudes there is a 0space (point) interface where all three

2space (planar) interfaces meet.

I have only 2space and 3space examples but I'm going out on a limb here and suggest that there may be some general properties of interfaces as illustrated in the diagram on the left.

One N space interface can intrude between two other N space interfaces and where it intrudes there is a (N minus 2, N - 2) space interface. This is where all three N spaces meet.

The reader might also note that there are N-1 space interfaces between adjacent N space interfaces on all three sides.

Notice, the N-2 interface has three sides. These will come into play in the model below. These relationships may or may not be properties of multi dimensional interfaces but never the less you will see this diagram and some variations of it again.

These properties are not the only ones that might be attributed to interface configurations but they are the ones I will be using to describe the quasi universe because while it is true that I cannot think in 5D terms, I can consider those properties that may be common to all spacial systems and get a partial picture of what may be happening.

Among other possibilities, the diagram above suggests that:

Three 2space interfaces may meet at a $(2-2)0$ space interface.

Three 3space interfaces may meet at a $(3-2)1$ space interface.

Three 4space interfaces may meet at a $(4-2)2$ space interface.

And finally rule number one;

Three 5space interfaces may meet at a $(5-2)3$ space interface.

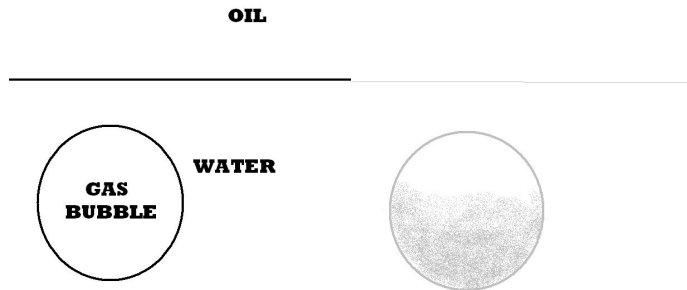
The reader may find it useful to substitute spacial numbers for N in the diagram.

I don't know of ways to test the above extrapolations or the others that follow so I simply accept them because they work with this paradigm. In addition, logically an infinite number of 4 and 5D interfaces may meet at a 3D interface, limited only by the sizes of their constituents, but quasiuniverse only needs three. I won't speculate about the higher interfaces that meet to create the 5D interface because this paper is about those interfaces that may directly affect the quasiuniverse.

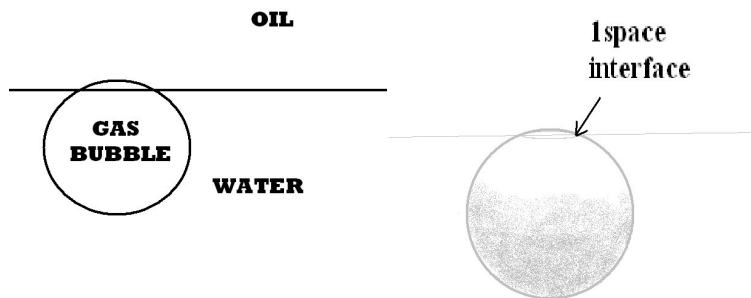
The Creation and Destruction of Spatial Interfaces

Spatial interfaces are created and destroyed so often that we seldom take notice. For example we see bubbles rising and breaking the surface of liquids all the time. But we seldom observe the spatial relationships present. Specifically we don't usually observe the creation and destruction of the linear or 1space interface as the bubble passes through the plane or 2space interface.

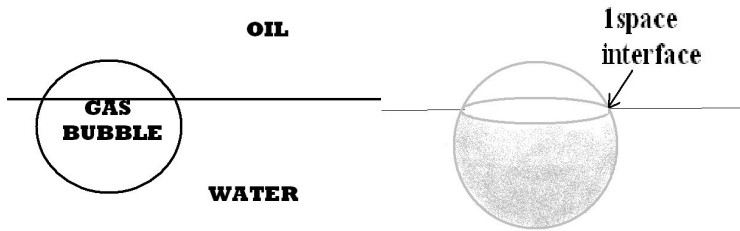
Allow a bubble to rise through water layered under oil.



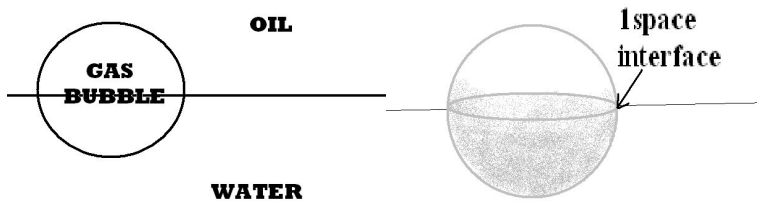
As it starts to pass through the 2space interface a small 1space interface is formed between oil, water and the gas within the bubble.



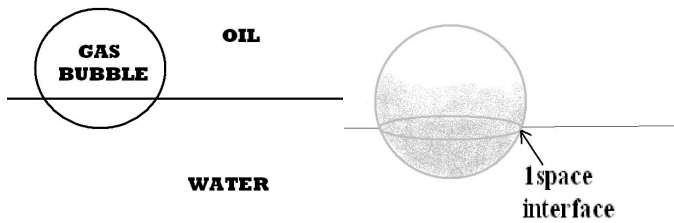
This interface becomes more apparent as the bubble passes through the plane formed by oil and water,



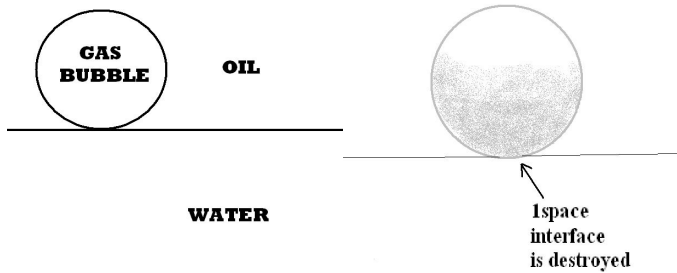
The interface eventually has the same diameter as the bubble.



As the bubble continues to rise the 1space interface shrinks in size.

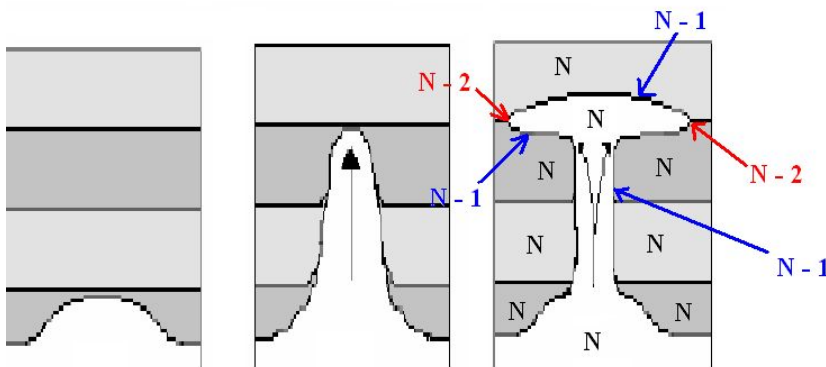


As the bubble passes through the oil-water plane the 1space interface is destroyed.



The principle here is that the creation and destruction of interfaces is a common occurrence.

The quasi universe is created using a pattern somewhat similar to that of a bubble.



In the diagram on the left, an Nspace substance rises through layers of other Nspace substances until it reaches a layer of lower density. It then spreads out over a layer that has a slightly greater density.

There are N-1 interfaces between adjacent Nspace substances but the process

has created a new N - 2 interface where all three Nspace substances meet.

The diagram could also be turned upside down to reflect a substance descending to a layer of greater density.

The chart below suggests relationships of interfaces to “N” of different values on the diagram

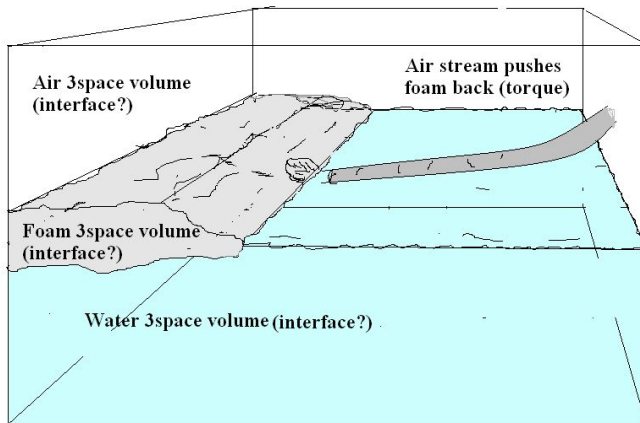
If $N = 2$, $N - 1 = 1$, $N - 2 = 0$

If $N = 3$, $N - 1 = 2$, $N - 2 = 1$

If $N = 4$, $N - 1 = 3$, $N - 2 = 2$

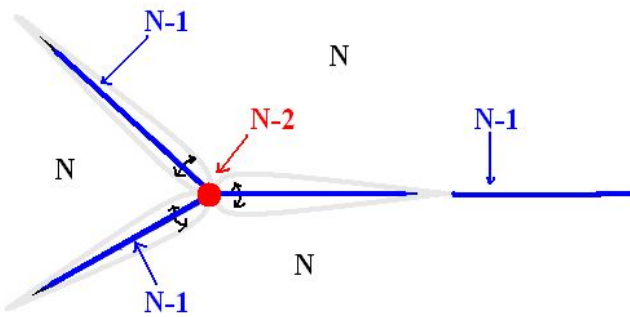
If $N = 5$, $N - 1 = 4$, $N - 2 = 3$ is a restatement of rule number one

The Application of Torque



Let's add a small hose to our fish tank. It allows us to blow a gentle stream of air onto the advancing foam. We don't want to blow the foam away, only make a small indentation above the leading edge. The surface is pushed back when the air is flowing but it returns to its original contours when the air flow is stopped. This displacement and contour return around the linear interface could be described as the application and removal of torque. There is the potential for torque to be applied in both directions at all of the interfaces

around the line. They could all be twisted around the line in one direction or the other, either singly or involving only two or all three. More force may be required to cause the same amount of displacement of some interfaces than others. But they all can be influenced by torque as some sort of pressure originating from the adjacent volumes.

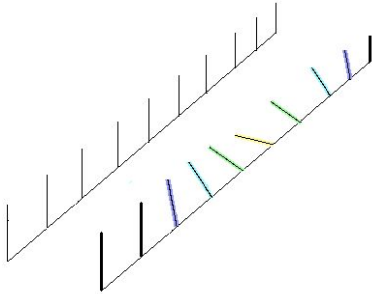


**Potential for torque
around the N-2 interface**

The diagram on the left suggests that these ideas may be properties of interfaces in general.

Motion or some sort of pressure from within any N interface might apply torque to any of its N-1 interfaces in such a way as to force their contours to rotate back and forth around their common N-2 interface

Torque pattern when N equals 3

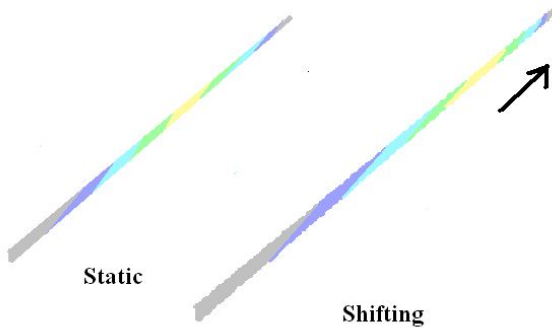


Torque applied to an N-1 interface where N equals 3

We can easily see what the effect is when N equals 3 as in the fish tank above. Where Ns equaling 3 are volumes, the (N-1)s are 2spaces or planes which rotate or are deformed around the (N-2) a 1space or linear interface.

The diagram on the left show the effects before and after torque. Each little rod attached to the linear interface represents an amount of torque detected at that region on one of the connecting planes. The torque becomes weaker

as we move away from the horizontal yellow rod past the green, blue and purple. And the finally to the grey where there is no torque.

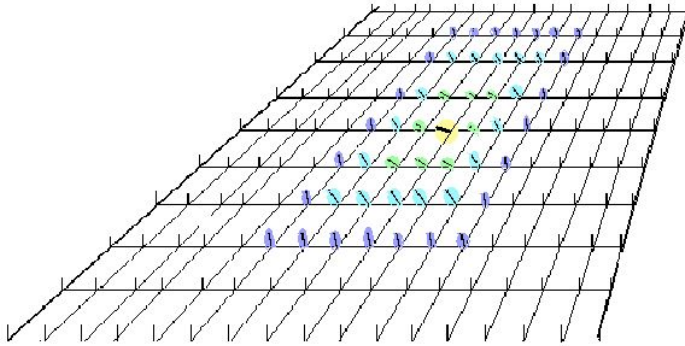


The diagram on the left is my attempt to show how I envision the gradations of torque around the linear (1space) interface. In the figure labeled “Static”, yellow represents the most intense torque. Yellow/green is the next most intense. Green in weaker yet. Green/blue, blue, blue/purple, purple, purple/grey and grey are all progressively weaker where grey represents no torque at all.

The same is also true in the figure labeled “Shifting” which suggests what I would expect if the focus of the stream of air described above was shifting away from the viewer. Foams of different surface tensions would reestablish their shapes more quickly or slowly. If the foam was slow to reestablish its shape, the torque would extend over a greater distance behind the shifting stream than ahead of it.

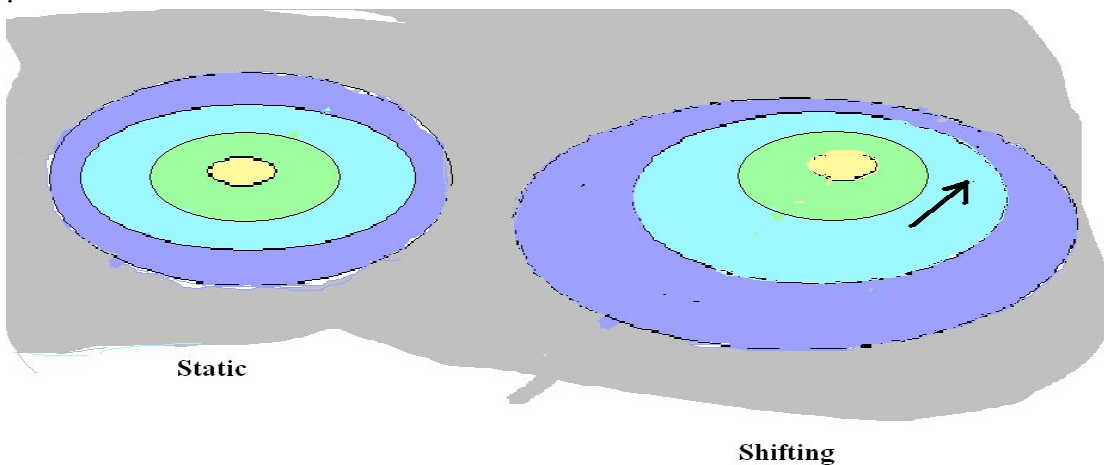
A suggested torque pattern when N equals 4

When N equals 4 we are talking about our first example of a hyperspace interface. This is a situation where three 4space hypervolumes (N) are bordered by 3space volumes (N-1 interfaces). They all meet at a 2space plane (N-2 interface).



Torque applied to an N-1 interface where N equals 4

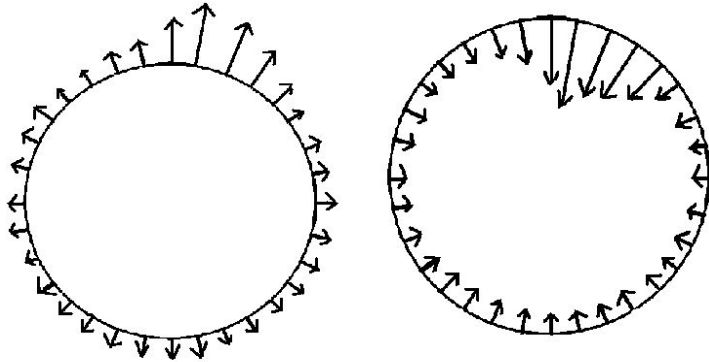
The diagram on the left shows the effects on areas with and without torque.. Each little rod attached to the planar interface represents an amount of torque detected at that region on one of the connecting 3space interfaces. The torque becomes weaker as we move away from the yellow rod bent to the horizontal past the green , blue and purple areas. And the finally to the black area where there is no torque.



The diagrams above are not surrealistic fried eggs. They represent what I would expect to be the gradations of torque on the connecting 3space interfaces across the planar interface when N

equals 4. As in previous diagrams, yellow represents areas with the most intense torque. Green is the next most intense. Blue, purple, and grey are all progressively weaker where grey represents no torque at all.

The figure labeled “Shifting” suggests what I would expect if the source of torque was shifting away from the viewer. Materials of different surface tensions would reestablish their shapes more quickly or slowly. If the material was slow to reestablish its shape, the torque would extend over a greater distance behind the shifting stream than ahead of it.

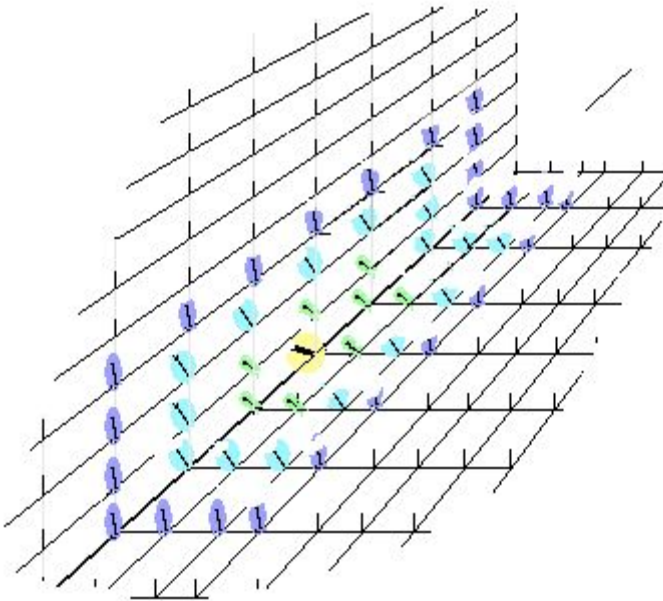


2 space circular torque patterns
Arrows indicate strength and direction of torque

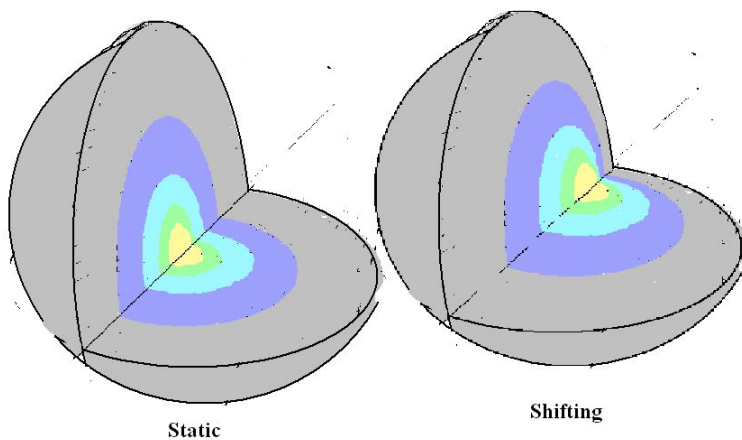
The most important aspect of $N=4$ torque is its allowed shape on a plane. It does not need to be confined to a straight line but it must be confined to a plane. It may shift in any direction on that plane.

A suggested torque pattern when N equals 5

When N equals 5 we are talking about our second but most important example of a hyperspace interface. This is a situation where three 5space hypervolumes (N) are bordered by 4space hyper volumes ($N-1$ interfaces). They all meet at a 3space volume ($N-2$ interface).

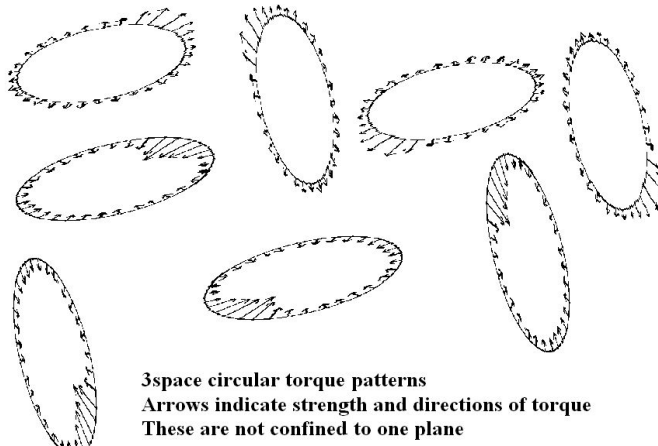


The diagram on the left is a cutaway that shows the effects on volumes with and without torque.. Each little rod attached to the planar interface represents the amount of torque detected at that region on one of the connecting 4space interfaces. The torque becomes weaker as we move away from the horizontal yellow rod, through the green, blue and purple volumes. And the finally into the black volume where there is no torque.



The diagram on left is $N = 5$ version of the gradations of 4space torque within the volume interface. In this cut away view of a volume, yellow represents the most intense torque. Green is the next most intense. Blue, purple, and grey are all progressively weaker where grey represents no torque at all. The figure labeled "Shifting" suggests what I would expect if the source of torque was shifting away from the viewer. Materials of

different surface tensions would reestablish their shapes more quickly or slowly. If the material was slow to reestablish its shape, the torque would extend over a greater distance behind the shifting stream than ahead of it.



3space circular torque patterns
Arrows indicate strength and directions of torque
These are not confined to one plane

The allowed orientation of $N=5$ torque is extraordinary when compared to the previous systems. Although the torque pattern here is planar, it can have any orientation within a volume. This allows for the creation of volumetric structures.

All of this is a consequence of rule number one.

There are more diagrams and additional speculation regarding what structure torque might have within different interfacial systems below, but for now I would like to create the background that establishes other paradigm rules.

The Big Swoosh Theory

When a star explodes in our universe, its shock wave has the potential to concentrate rarified matter into dense clouds. This allows gravitational attraction to condense the clouds further. As these clouds continue to condense they acquire angular momentum from incoming matter and begin to rotate. The stars and planets that are ultimately created by this activity are also given angular momentum from the parent cloud. They not only orbit its center of gravity but also have their own rotations.

Another characteristic of these objects is that they form layers. The most dense elements and substances settle to their centers. Other layers are shells, each shell has a density lower than the shell below it but higher than the shell above it.

Even a single component such as an atmosphere can have its own layers separated by energy content (heat) or saturation with water (as is found here on the earth). Any conditions out of balance will cause a shifting of layers. A heated layer can become less dense than the layer above. It then pushes through the upper layer spreading out over it and becomes let's say a hurricane. As it outgases, the Coriolis effect changes its shape into a clockwise spiral above the equator. The air travels over a rotating reference, (the earth). A counterclockwise motion is given to the air at the surface as it approaches the center and a clockwise rotation to the air out gassing at the top.

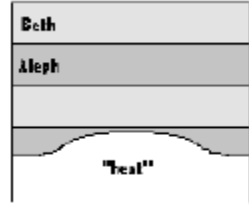
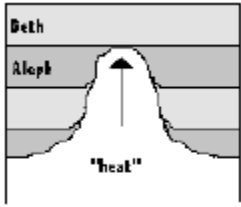
For the sake of the model, allow that 5space substances could undergo similar transformations. Allow their texture to be immeasurably finer than the texture of quasi matter (See below "Layers on the parent 5space hypersphere"). The 5space analog to gravity would weaken at the rate of $1/r^4$ where r is the distance from the propagating source. Time scales here would be immeasurably long. Therefore the creation and demise of a quasi universe as described below could be as ephemeral when compared to the age of the 5space universe as the creation and demise of the great red spot on Jupiter when compared to the age of our universe.

Adequate time and perhaps other events could gather sufficient quantities of 5space substances to form analogous "proto" systems or clouds which could have rotation, created by analogous "angular momentum" of incoming material. Allow these clouds to continue to condense until they create orbiting hyperspheres. The hyperspheres should also rotate, having received angular momentum from incoming material. The substances of these hyperspheres should form layers, with the most dense "hyperatoms" or "hypermolecules" settling towards the centers.

Allow that this process is ancient, has been in progress for an immeasurable period of time and the 5space hypersphere formed is immeasurably large. So large that the finely textured materials that are layered at some distance from its center form sheets because they are so spread out relative to their total (hyper)volumes (somewhat like a drop of oil upon a large volume of water).

The layer in motion that we are concerned with as described below would be slightly thicker because it is still in the process of spreading.

These fine layers will be used to account for certain effects but they are not shown as fine in the diagrams so that I can emphasize other concepts.



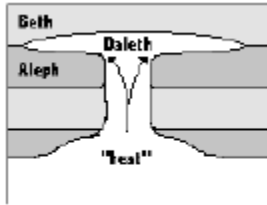
Allow the interiors of the hyperspheres to generate analogous “heat” perhaps as energy released from hypergravitational pressures. Allow that layers of substances could be changed by this “heat” such that there is a change in density or perhaps the release of another substance.*

Let the substances be fluid. Name two adjacent layers of fluid. Call the lower Aleph and the upper “heat” from the hypersphere interior to react with a

Beth†. Allow

substance further down releasing another fluid perhaps in a manner similar to the release of carbon dioxide at the Cameroon lakes in Africa or methane from methane hydrate on the floor of an ocean. Allow this altered fluid to have an intermediate density between that of Aleph and Beth. The new fluid rises, passing through denser fluids until it reaches the Beth layer which is less dense. It falls back onto the Aleph layer and spreads out between them.

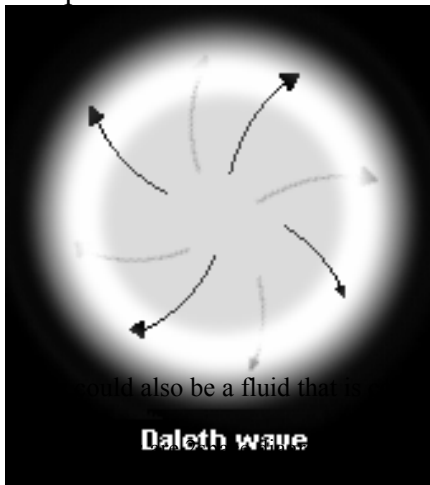
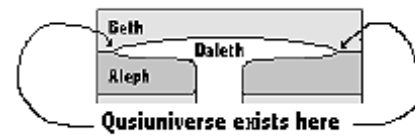
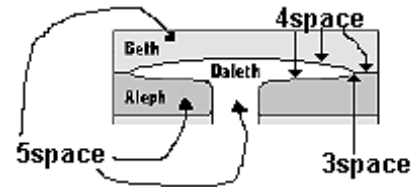
On the periphery, where the three fluids and their 4space interfaces meet, there would be a new 3space interface, a volume that had not existed before.



Initially the hypervolume and the penetration of the hypervolume of fluid would likely be such that its 3space’s expansion greatly exceeds the speed that would allow any organized or uniform turbulence to exist. This could have effects similar to our “universal inflation”. It should slow

down as it spreads to allow uniform turbulence but could still exceed the speed of any transverse waves that could travel along the 3space interface.

Call this new layer Daleth. Allow that none of the fluids are permanently mixable with either of the other two, just as water, oil, and air are not permanently mixable in our universe. (I’m ignoring the possibilities of quasi “emulsions” here.) Allow that their densities (or an analog to density) are very similar but different enough to allow layering. Also allow that any bubbles that are created during the initial mixing of the fluids, to separate over time and recombine with their parent fluids.

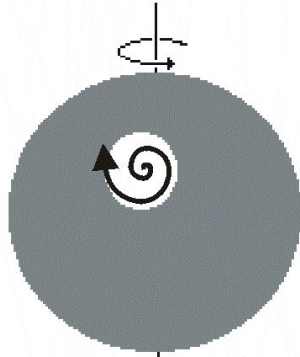


could also be a fluid that rises and descends through the various layers to spread out over the more dense

Daleth wave

the objects. Solid colors are 5spaces, lines are 4spaces and points where the lines touch the reader might want to look for other potential universes in the diagrams.

It is unlikely that the flow from the lower levels would be uniform so Daleth should spread as waves with its front advancing more rapidly at some times than others.



Hypersphere rotates from West to East. Daleth above equator spirals clockwise as it spreads.

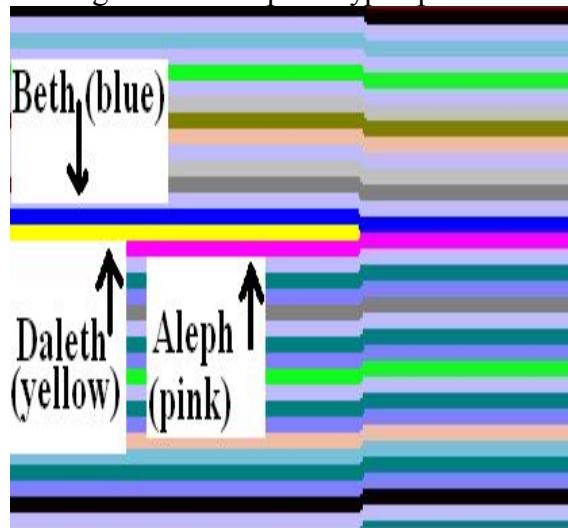
More importantly Daleth should follow a spiral as it spreads because it's traveling over a rotating reference (Coriolis effect). If the hypersphere is rotating in a West to East direction, Daleth above the equator should follow a clockwise spiral. If it were below the equator, it should follow a counterclockwise spiral.

Another rule is that neither, space nor time, existed for the quasi universe until Daleth began its intrusion between Aleph and Beth. All quasi universal constants were determined by the properties of Daleth (density, speed of intrusion, etc) combined with the properties of Aleph and Beth. If any of these properties were different it would be a different universe.

So the picture here is that of the 3space interface becoming well established after a massive turbulent birth and then settling of the layers. The massive 5space bubbles that collapse as the new 3space interface is established should leave their mark on the 3space interface as a sponge like superstructure with gravitational indentations (see below) creating walls between bubbles. The energy present at the birth could ultimately redshift to that of a quasi microwave background as quasi universe expands.

Layers on the parent 5space hypersphere

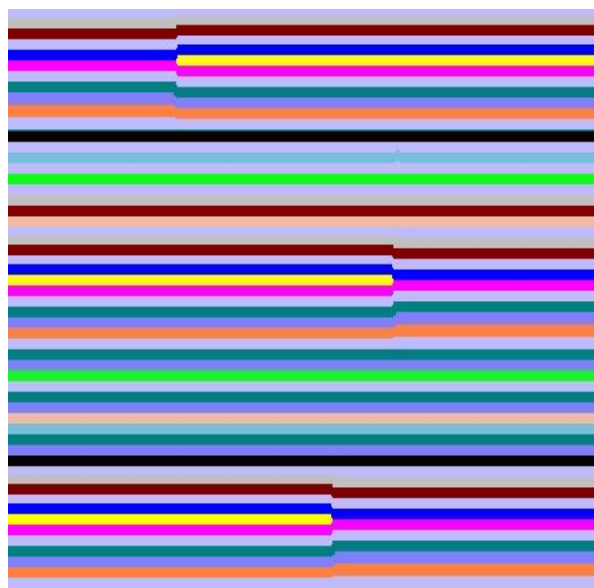
The region of the 5space hypersphere that contains the quasi universe is made up of many layers.



I envision each to be many times thinner than an iridescent oil slick in our universe. This allows at least one spacial dimension be inaccessible and possibly have an apparently “rolled up” or hidden dimensional concept similar to that of our universe. A major difference is that the thickness of the oil slick in our world is approaching the size of its material unit or molecule, but the 5space layers do not. This is because I imagine the size of its component units (hyper atoms or molecules) when compared to the thickness of the layer would have a ratio similar to that of a neutron’s diameter compared to the thickness of the deepest region of an earthly ocean. The Daleth disparity is size would

probably be even be greater. What more, I envision these hyper atom or hyper molecules to be tightly packed without any equivalent to an electron cloud and to be denser than anything allowed within our physical laws. Our atoms are mostly space but these atoms fill 5space completely. I am describing an immeasurably large object (the hypersphere) that consists of immeasurably small objects. And layers that are unfathomably deep or immeasurably thin depending on your point of view. If you are the size of a component unit, Daleth is unfathomably deep. If you are the size of a quasi universe occupant, Daleth is very much thinner than an oil slick. A rationalization will be presented below that suggests that layer thickness could be measured in what is describe in our universe as Plank lengths

The diagram on the left suggests how I envision Daleth to be separating Aleph and Beth. The reader should remember that although the size of the dimension that describes thickness is miniscule, there is plenty of room for activity within the other four dimensions. And because of



this thinness in one direction all of the diagrams below are highly exaggerated or distorted. The 3space interface where Daleth intrudes between Aleph and Beth is where the Quasi universe is found.

An additional observation is that multiple layers could engender multiple universes, some of which could be similar to the quasi universe and others with radically different constants and laws. For instant, the speed of transverse waves (quasi light) in some would be different.

The diagram on the left suggests this. The yellow layers are intrusive. Columns of intrusive

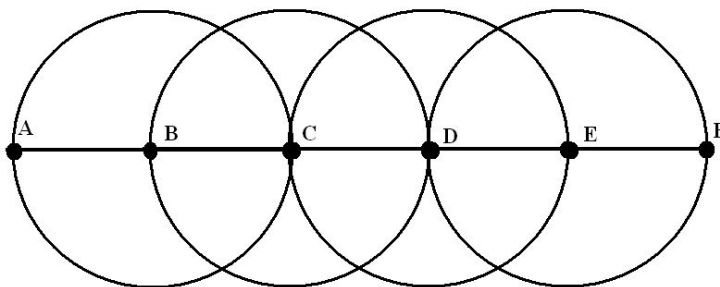
material could disrupt portions of other intrusive layers without interfering with their universal activity if the column was sufficiently distant from the advancing perimeter. If one invasive layer contacts the column of another invasive layer its 3space interface would only be disrupted in the region of contact. It may even be able to advance beyond the obstructing column and repair its 3space interface and continue in its advance.

Some considerations regarding quasi universal expansion

The quasi universe has two important geometric facets that are linked in its expansion. One is the expansion of the hypervolume that originated from some point in the higher space (a changing radius). The other is the expansion of the circumferential 3space interface. Within the model the quasi universal 3space expansion is a circumference whose diameter is related to the expanding perpendicular hyper volume within it. For the moment let's set the velocity of the hyper volume's expansion (the radius) as the speed of quasi light. That is the 3space circumference is shifted outward a distance quasi light can travel in one second or 300,000 meters in each second. The diameter of the 5space pancake increases 600,000 meters each second. So our unit here is the light second. With each linear light second expansion of the hypervolume, all dimensions of the 3space interface expand but I want to concentrate on only one because it encompasses a great circle. These great circles have centers that coincide with the center of Daleth's expansion, so each of them delineates a circumference around the hypervolume.

The circumference of each of these great circles equals 2π times of the radius of a circular plane that bisects the hypersphere so the relationship is that of $2\pi r$ where r equals the radius. Each new light second hypervolume expansion adds only 2π light seconds to the accumulated circumference.

Now, let's say that this has been going on for 14 billion years. That is an extremely large accumulation of light seconds both for the radius and the circumference. For the moment if we assume that the expansion is constant, this means that one light second expansion of the radius adds only 2π light seconds to the total 14 billion years old circumference. This could not be observable locally but only at great distances.

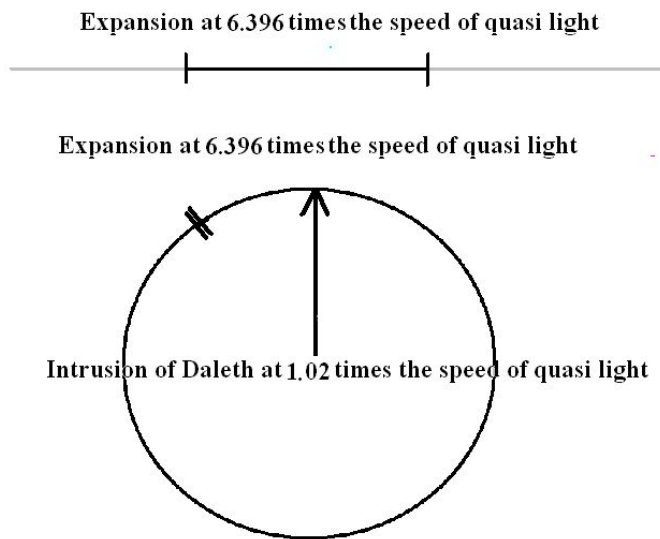


The circles represent cosmic horizons
 Observer A can see observer B but not C,
 B can see A and C but not D,
 C can see B and D but not A or E,
 D can see only C and E,
 E can only see D and F

Now let's work in reverse and arbitrarily use a segment of the circumferential quasi universe, treat it as the whole and estimate a rate of Daleth's expansion for a quasi universe of that particular size. You will understand why as you read on. Scientific American's article, "Does the Multiverse Really exist?" (Ellis, George F. R., August 2011 Volume 305, No 2 Pages 38 to 43) suggests that the cosmic horizon (which incorporates universal expansion and

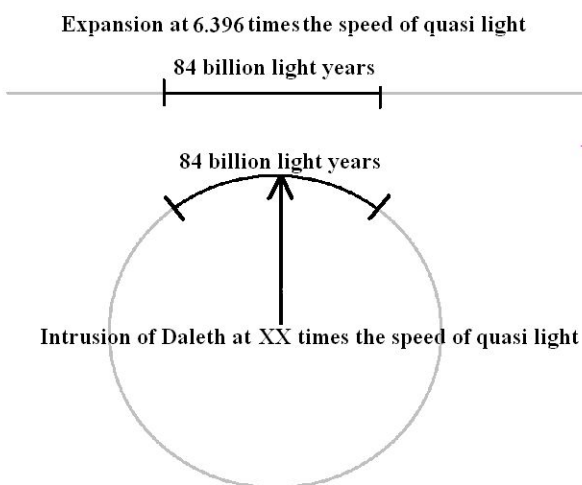
the distance light has traveled since the big bang) is 42 billion light years in any direction. The light from any object outside this cosmic horizon has red shifted to extinction. This suggests that the diameter of our cosmic horizon from one side to the other is 84 billion light years. This is all that we can ever see. This is the observable universe. The illustration on the left suggests how this might work. It assumes that the different observers have maintained their relative positions since the big bang (or swoosh) but have moved with universal expansion. Each observer can see only other objects within his cosmic horizon, nothing outside. The Scientific American article also makes the assumption that the observable universe is the size of our universe. This may or may not be true as suggested by the illustration.

This suggests that of the size of our “observable” universe is about 26 billion parsecs. (84,000,000,000 light years divided by 3.26 light years (which is equivalent to one parsec) equals



25.8 billion parsecs). The latest measurement of universal expansion is 73.8 kilometers per second per 1 million parsecs (Cowen, Ron, “New study gives dark energy a boost” Science News April 9th, 2011; Vol.179 #8, p16).

Using the Scientific American estimate this suggests that there are about 26000 one million parsec segments in the observable diameter of our universe. 26000 times a rate of expansion of 73.8 km per second is 1918800 km/sec or 6.396 times the speed of light. So this would be the rate of the expansion for a quasi universe of this size.



For now I will apply these values to the quasi universe. Our universe in has a diameter whereas the quasi universe (as the edge of a 5space pancake) **is a circumference**. So if I apply these values to the quasi universe, expansion of what is our universal diameter becomes an expansion of the quasi universe as a circumference. If we use these values as quasi universe’s circumferential expansion rate (6.396 times quasi light speed) we come up with an outward or radial speed that is 1.02 times the speed of quasi light ($6.396 / 2\pi = r$).

This expansion of the hyper pancake is perpendicular to the quasi universal interface which is at its edge.

These figures are based upon the “observable” universe. Some estimates propose that our universe is much larger. This suggests that the intrusion of Daleth which is responsible for the expansion of the quasi universe could be very much faster than 1.02 times quasi light speed.

Ideas suggested here will be covered more completely in the section “Quasi Gravity” But for now I want to point out that the rapid intrusion of Daleth, causes any objects at 3space that produce indentations, to experience some degree of force from the backflows of Aleph and Beth.

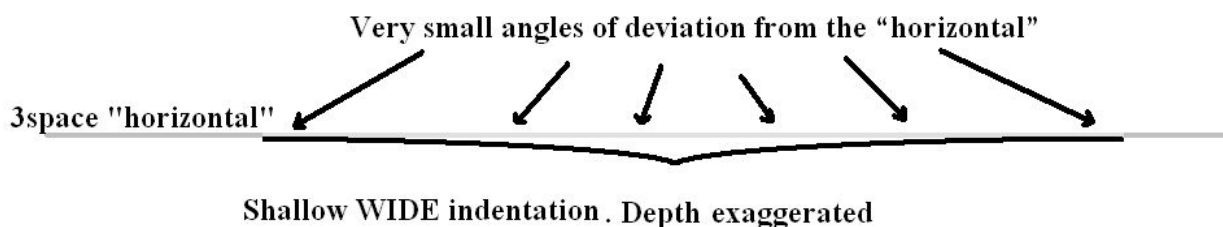
Shallow indentations experience very little. Those with deeper indentations experience more. Those with indentations whose walls are becoming parallel to this back flow could experience all of its force and would be swept towards the indentations center. Actually, if Daleth’s intrusion is as rapid as suggested above, they would be swept to the center well before they were subjected to the backflow’s full force.

These indentations experiencing the back flow of Aleph and Beth would become “virtual wells”. The spacial interface within some of these indentations could very well have a slope with an angle in which the fraction of the backflow along this slope is greater than the speed of quasi light. In other words, these slopes would only need to be very small deviations from the “horizontal” 3space interface to have substantial effect.

Quasi light could not escape from these “deeper” virtual wells. Therefore, all of the objects that can be viewed within the quasi universe must have indentations less than this. It also implies that the very shallow but wide indentations could have the potential to accumulate objects without interfering with shear.

At this point these ideas do not suggest anything about the actual depth of the more pronounced indentations only that their contents would not be visible within 3space.

In spite of this speculation, the occupants of quasi universe cannot be sure what the actual values are. Their observable universe would include only those regions where quasi light has not been modified to extinction by expansion. Beyond this nothing is visible and the actual speed of Daleth intrusion may be indeterminable.



The origins of these wide shallow indentations will be described in “Quasi Gravity” as the pull of vortex accumulations on the 3space interface before they escape up the adjoining 4space interfaces.

Consider the advance of Daleth to be analogous to our “dark energy” and the indentations with their backflow of Aleph and Beth to be analogous to our gravity. Quasi gravity could not exist without the advance of Daleth (dark energy) in the quasi universe. Whereas the dark energy and gravity are two different competing forces within our universe. So this is one contrast between the quasi universe and our universe.

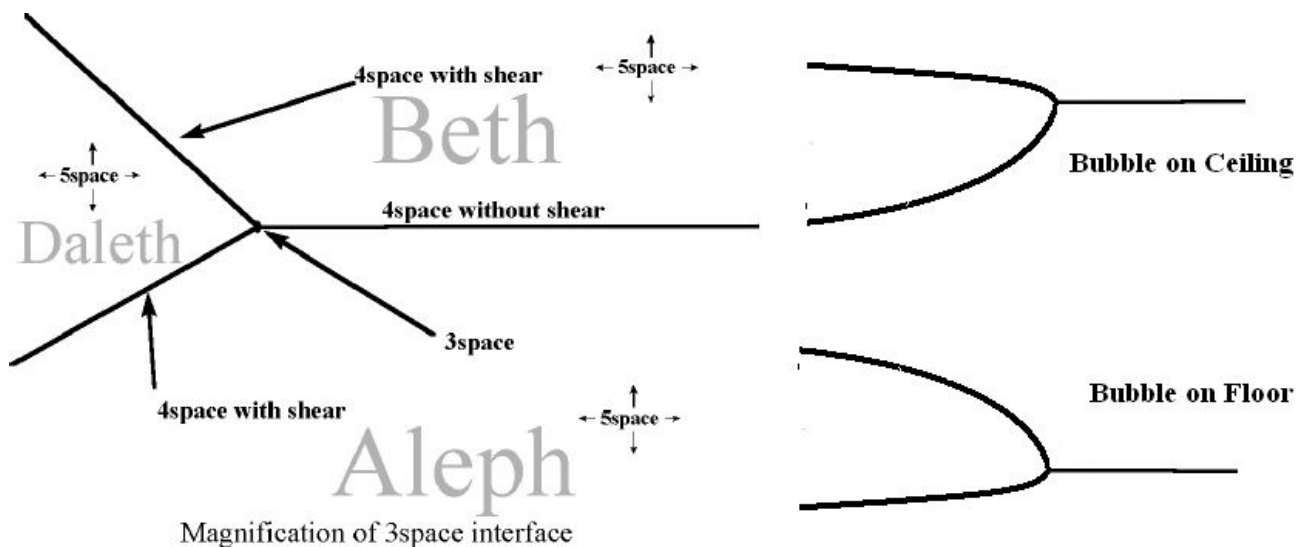
This suggests other consequences of this relationship between Daleth's intrusion (quasi dark energy) and quasi gravity.

One is that if Daleth's intrusion accelerates, quasi gravity would intensify because the Aleph/Beth backflow would intensify. Quasi dark energy could not overpower quasi gravity because it causes quasi gravity.

This may be a testable effect. For instance if all other forces remained the same during times of slower Daleth intrusion quasi proto stars may collect larger volumes of quasi hydrogen before initiating fusion because quasi gravity is also slightly weaker. The larger volumes would be required to create the pressures conducive to fusion. In this situation, the volumes of swarm (see below) cause lower drag on advancing Daleth, so the indentations of the advancing 3space interface are not as deep and the Aleph/Beth backflow is not as intense.

Another consequence has to do with irregular patterns for Daleth's intrusion. I started out implying that Daleth advance was uniform. It doesn't have to be. Some regions of the 3space interface could lag behind others. The regions between the more advanced quasi universe and the centers of these lags would not be totally perpendicular to the direction of Daleth's advance. And as a result, they would create drifting of 3space objects towards their centers, similar to the "great attractor" in our universe (see "The End" below).

And so this would be the parent or foundation universe for the quasi universe.



(The diagrams above are highly exaggerated and ignore the thinness of the fluids).

The quasi universe exists at the 3space interface where advancing Daleth separates the other two 5space fluids. It is unlikely that Daleth density would be such that it splits the fluids evenly so the actual configuration would be more like an advancing bubble on a floor or ceiling. This will be a significant factor in the properties of vortex swarms in that while I envision the

difference between the upper and lower contours to be very small, it should be sufficient to allow certain energy configurations to be predominant. Therefore, the quasi universe should have broken parity and symmetry.

These contours should be altered by the presence of high concentrations of vortices (see below) allowing greater shear at the 4space interface that have become more perpendicular to the Aleph/Beth interface. This shear should occur where Daleth meets Aleph and Beth because Daleth's fluid moves differently from the other two fluids and rubs against them. The shear could generate vortices. For the most part, these vortices would be random in occurrence and direction at the 3 and 4space interfaces. But they might take on uniform directions and have longer contact with these interfaces wherever there is torque or other confining configurations of the interfaces. Mechanisms that might allow this will be suggested below.

I set the condition that the densities of the three fluids to be close because I want to allow turbulence on both sides of affected 4space interfaces. That is, the chances would be greater that shear would cause turbulence in the less dense fluid but would also allow a nearly equal although slightly lower chance that it could also occur in the fluid with the slightly greater density. If this is allowed, the concentrations of vortices generated within each fluid should be roughly equal. Under these conditions and its speed (1.02+ times quasi light with a high Reynolds's number see above) the flow is also much less likely to be laminar. Allow that the combined factors (the densities and viscosities of the fluids, the high speed and relative motion of Daleth to the other two fluids, etc.) would cause both sides of the interfaces between Daleth and the other two fluids, to seethe with an extremely fine and dense textured turbulence. This turbulence could consist of tiny rotating hyper columns of fluid and other waves. It would be "fine" in that the hyper columns or vortices within this turbulence should be extremely smaller than what might be perceived as the basic units of the 3space quasi universe. It would be "dense" in that they would occupy every permissible volume and hyper volume that conditions allow at the interfaces. They should be constantly created and dissipated at the interfaces of all three fluids. Each time an isolated vortex forms at the 3space interface and is swept away by fluid motion along the connecting 4space, it at first creates a prolonged twist (torque) around 3space. Then as it is pulled away from the 3space interface some of its energy is left behind in the form of a 3space twist rebound (torque) in the opposite direction. If there were no shear this wave would rebound and re-twist until its energy is dissipated along the connecting 3 and 4 space interfaces but I suggest below that the presence of shear provides a mechanism to replace or limit this energy loss. Under the right conditions these waves could potentially reinforce and interfere with each other. This turbulent field of tiny objects will provide continuity to any established systems of resonance in much the same way the white noise of rushing air at the mouth piece of a flute provides continuity to the resonant volume within the flute.

This is the primary field; an ocean of energy is similar to the Higgs field in our universe except the rotation of vortices in the field above the Aleph/Beth horizontal is opposite those below. This background is the stuff from which everything will be made: quasi matter, quasi anti matter, various quasi photonic structures, and various fields (quasi gravitational, quasi electrostatic, quasi magnetic, polarized shear etc.). It would also have many characteristics similar to our quantum energy of the vacuum in that "particle like" objects would be continuously created and destroyed.

In other words the 3space edge of advancing Daleth has some things in common with a wire

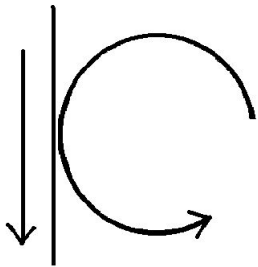
vibrating in a breeze and shedding vortices downwind.

A close up view of the background

Before continuing I need to establish rules regarding the interaction the different species of vortices at each interface. Then I can provide a very incomplete introduction to “quasi photons”, followed by the concept of circular / tubular resonant vortex “swarms”, and then describe some of their properties.

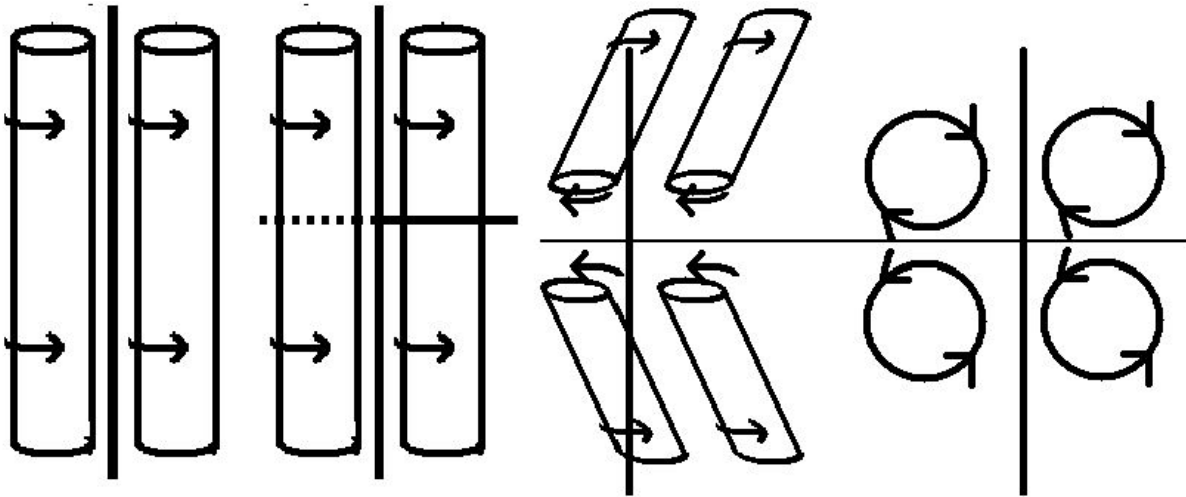
In the quasi universe there are four species of vortices created at the 3 and 4space interfaces. They occur on both sides of the Aleph/Daleth interface and both sides of the Daleth/Beth interface.

These are some of the ways as to how these vortices might interact with the 3space interface and each other. First let’s think about what the situation would be if there were no horizontal



Daleth 4space moves against Aleph/Beth

4space interface between Aleph and Beth. This configuration has Daleth moving against a single hyper volume. The vortices formed on either side would rotate in the same direction because although for each of them the motion of the adjacent fluid is moving in the opposite directions, it is also against the opposite sides of the vortices. Both rotations in the illustration to the left are counterclockwise



The first picture above is that of unbroken columns of fluid moving along either side of the 4space, each with vortices of the same rotation when pulled in the same 4space direction. Now if we add a 4space interface, perpendicular to the first (second diagram), we create additional vortices that rotate in the same direction but only when they are stacked one on top of the other. (The dotted line represents the break in Daleth’s contour caused by it’s interaction with Aleph and Beth. It would behave as though it were an extension of the horizontal). These vortices cannot pass through the 4space interfaces. They are pulled by the flow of the moving fluids only along or away from them

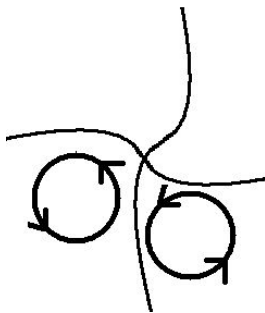


If all vortices are pulled in the same 3space direction, those above the 4space horizontal interface will rotate in a direction opposite those below.

Vortices on either side of the vertical 4space have the same rotation.

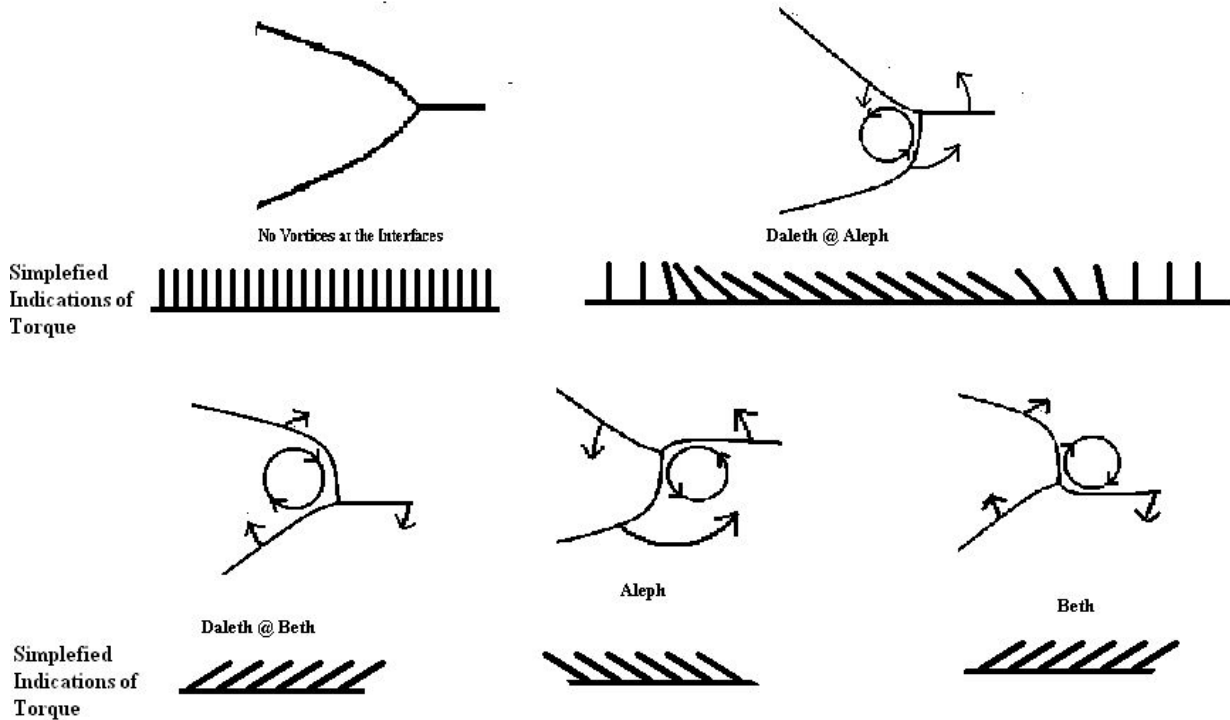
The diagrams to the left and below suggest how the 4space interfaces around 3space would twist while vortices contact it. The first diagrams use a four interface grid whereas the quasi universe has only three interfaces. The intrusion velocity is so high that it is unlikely that the horizontal interface on the right before Daleth's intrusion would experience much in the way of

distortion but the distortion of the other interfaces will be shown to be very important in the formation and properties of shear vortices.



The picture here is that of tiny columns of fluctuating and rotating 5space material. The bases of these columns that touch the 3space interface could be described as closed fluctuating strings of energy traveling through the 3space interface and their bodies could be described as a open fluctuating strings extending up the sides of an adjacent 4space interfaces. The reason I describe their bases as traveling through the volume and not just to one side is that the interface is somewhat flexible and indentations are present wherever there are vortices. These circular indentations accompany these vortices as they move along the interface.

These vortices are pulled away by the back flows that are created by the intrusion of Daleth. But they are also held in contact with and advance along the 3space interface through their own torque wakes and (as seen below) the cumulative torque patterns of other vortices near them. The back flow always wins out in the end but their time spent at the 3space interface and how far they travel varies with their environment.



Single vortices with their torque and interface contours

All vortices are traveling towards the reader.

If they were traveling away from the reader their torques would be reversed.

The diagrams above suggest the distortions produced by individual vortices. They will also apply to vortex combinations when that concept is developed later. It will be suggested below how swarm formation allows these combinations to exist but for now I wish to emphasize that the vortices don't simply create torque but also change the shape of Daleth's leading edge. The hashed line diagrams indicate the torque created by single vortices. These patterns will also be applied to conglomerates of vortices with the same orientation. These simplified indications of torque are a condensed form of the "stick" diagram labeled "A suggested torque pattern when N equal 5" above.

These contours and their associated torque would be prolonged as long as the vortices or vortex conglomerates were contacting 3space. Anything above the "horizontal" 4space interface would twist 3space or apply torque to 4space interfaces in directions opposite those below.

Individual vortices also contribute a rebound twist or torsion wave to the 3space surface when they depart. These new twists are opposite the ones present while the vortices were still in contact with 3space. As they leave 3space they would pull and continue to twist it. When they break free they would allow 3space to "snap" back with an opposite twist. These rebound waves could have high amplitude but very short duration. If there was no shear their range would be short because they are that portion of the torsion wave that could also be dispersed along the connecting 4spaces. But these twists can also "seed" other vortices created by the fluidic shear. I am suggesting below that this process allows these twists to travel great distances along the 3space interface as quasi photons.

A Daleth_B (Daleth at Beth) vortex with energy above some threshold is being pulled away

from the 3space interface by the flow of Daleth as it travels between Aleph and Beth. This vortex had a 3space orientation and direction while it was attached to the 3space interface. When it leaves 3space, its rebound has a mirror 3space orientation and rotation. In other words the resultant wave is not flat. It doesn't disperse in all directions equally. The wave travels only in one direction. It would be expected to spread out as the arc of a sphere but it is further confined by polarized shear (see below).

Shear is present everywhere. Vortices are being created everywhere but I am suggesting a rule in which they can have preferential orientations where 3space is already twisted or subjected to torque. So when 3space untwists it seeds other Daleth_B vortices with opposite 3space rotation traveling in the same direction. This is possible because the connecting 4space is perpendicular to all directions of 3space. This seeding allows the vibrating torsion wave to continue in its original direction as a train of alternating twists reinforced by vortices with alternate rotations. So when one group of vortices departs it seeds another group and the cycle is repeated continuously.

When viewed from 5space this activity looks like a little zipper coming undone as the two vortex streams escape up the connecting interface(s) from the traveling wave (see Intro to Quasi photonic patterns below).

The presentation of vortices with opposite rotation is allowed at the 3space interface because although all Daleth_B vortices have an intrinsic orientation, the 3space axis of the vortices can have any orientation perpendicular to their rotation. A vortex with one 3space presentation or axis direction could be described as "up" or "down" relative to one with the opposite presentation or axis direction. They both could still be pulled up the same 4space interface because it contains all of 3space's directions plus another.

Other linear vortex systems involving vortices in Aleph or Beth or combinations of vortex streams on different sides of 3space will be described below. I will suggest some properties for these variations. I will also suggest a reason for higher frequency in response to higher energy (torque against a resistant media), and consider the possibility for different vibratory modes.

So for now the description of the quasi universe is simply that of rotating, vibratory string like vortices arising from shear and organized by torque. Their presence at the 3space interface would be viewed as moving points that appear and disappear or as transitory minuscule one dimensional rings sweeping out regions of 3space.

These will be the structural elements common to all quasi matter, quasi antimatter, quasi photons and other transfers of energy in the form of torque. Torque maintained by shear is the manifestation of all energy within the quasi universe.

Some suggested vortex interactions

The small diagrams above set down the rule that both species of vortices above the Aleph/Beth 4space would rotate the same. They also twist 3space the same way when pulled in the same 3space direction. This rule also applies to both species of vortices below the horizontal interface but they would rotate and twist 3space in the directions opposite those above the Aleph/Beth interface.

When two vortices originating from below the Aleph/Beth interface (two Daleth_A vortices or a Daleth_A vortex and an Aleph vortex) travel in the same 3space direction, they contribute twists to 3space that are the same. This conforming of their wakes reinforces each of their rotations.

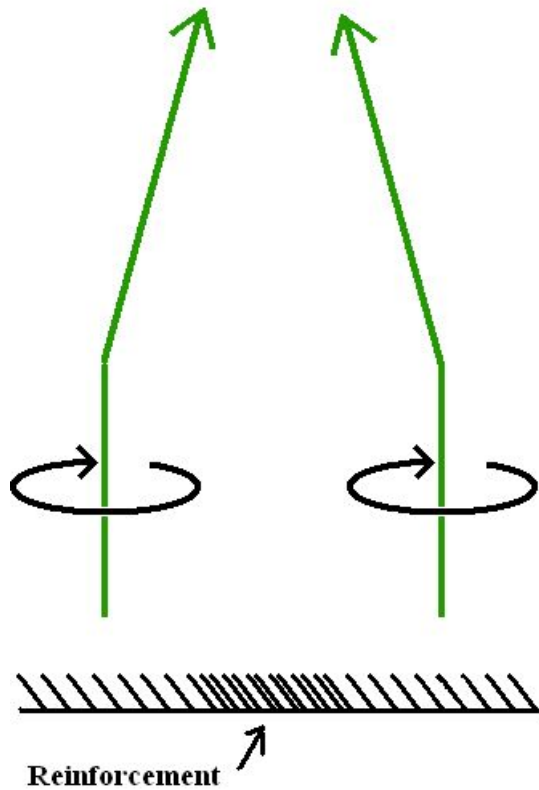
These vortices tend to accelerate moving along the advancing wakes forward and closer towards each other. The same would be true for vortex pairs that originate above the Aleph/Beth interface. These vortices would also stay at the 3space interface longer because the compatible wakes tend to anchor them, providing resistance to the pull of the fluids around them.

But vortices don't always travel in the same 3space directions. The 3space presentations of two vortices of the same species moving in opposite directions will have opposite relative rotations and wakes with opposite 3space twists. These wakes will force them to decelerate and turn away from each other as they each attempt to conform to or follow the wakes. The interference between the wakes will also allow them to be more easily pulled away from the 3space interface by the general flow of the fluids around them.

When a vortex from above the Aleph/Beth interface travels in the same direction as one from below they have opposite rotations and produce wakes with opposite 3space twists. These wakes will force them to decelerate and turn away from each other in an attempt to conform.

However if they travel in opposite 3space directions, their 3space presentations are the same as those of vortices having the same rotation and traveling in the same direction. They contribute wakes to 3space that have the same twist. In this case these vortices tend to accelerate moving along the advancing wakes, forward and towards each other.

The question may be asked "Why would they move closer together or further away?" If a vortex simply touched the 3space interface and then departed it would cause 3space simply to twist and then rebound. This could be graphed as a simple sine wave in which the top of the mountain represents the highest amplitude of the original twist and the floor of the valley represents the maximum amplitude of the rebound. However these vortices should stay at the 3space interface until they have taken on enough energy from the connecting 4space interface to escape. Only then do they escape and leave behind the rebound. The graph of their waves would not simply rise to a mountain top but to a plateau and then later, when the vortices depart, the graph would have a steep decline to the valley floor of the rebound. There would be some twists and anti twists afterwards before the interface stabilized but I want to concentrate on the plateaus for now. This twist around the 3space interface is a relatively long term distortion of the connecting 4space interfaces with greatest intensity of torque at the vortex.



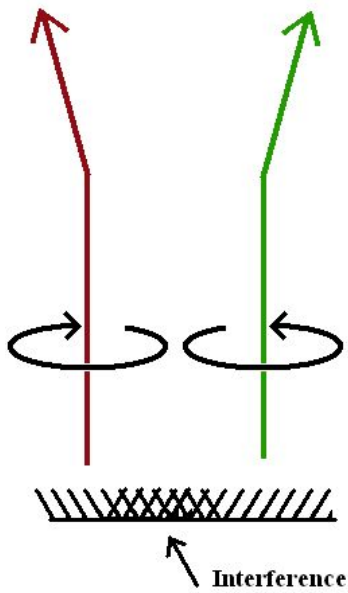
Expanding on these rules regarding vortex interactions, picture a vortex traveling along 3space creating one of these wakes. Allow another vortex traveling in nearly the same direction and presenting the *same* 3space twist to come near this vortex. The torque between them intensifies. When the second vortex encounters this wave it will be accelerated by the twist of 3space and move towards the volume with higher torque. The wake of the first vortex compliments the wake of the second and the second tends to slip into the established wake modifying its own direction. The second vortex is also having a similar effect on the first so they are moving towards each other following the torsion wave contours around the 3space interface.

An important point is that this reinforcement will also accelerate these vortices. They will travel further before escaping their 3space attachment. They accelerate because as they move closer to each other they are moving into space with a higher compatible torque so for each of them space is actively twisting. The lines at the bottom of the diagram, suggest the shift of the connecting 4space interfaces caused by

the presence of the vortices. As the vortices approach each other the 3space between them experience greater torque so they each tend to move into that wake.

Do not consider the rotations around the arrows to be “meshing or not meshing”. It is torque at the 4space interface that determines their behavior.

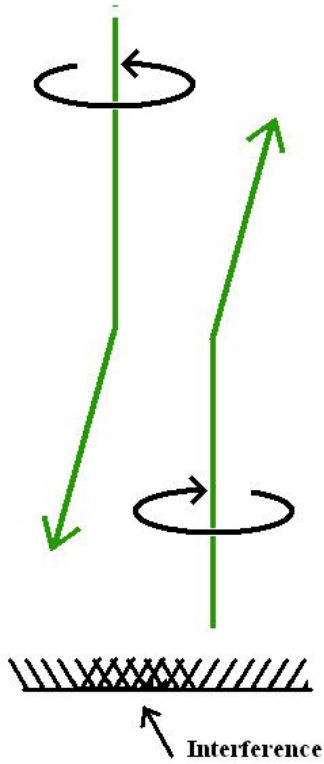
This property of vortices moving together when they have the same 3space presentation is the dynamic that allows torque to become concentrated in the structures below.



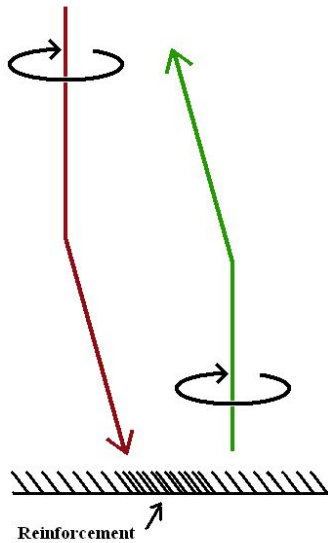
Any approaching vortex traveling in the same direction and presenting the *opposite* 3space rotation will decelerate and turn away. It decelerates because the wake of the first vortex interferes with or neutralizes the wake of the second vortex. The vortices turn away from each other because they always move in the direction of the higher compatible torque which is on the side away from the interference between them. They would move away from each other following the torsion contours around 3space.

A very important point is that this interference will also decelerate these vortices. They will not travel as far before escaping 3space. They decelerate because the torque around them at the 3space is decreasing while they are receiving more energy from the shear at 4space. This creates conditions that encourage motion along the 4space interface away from 3space.

As a reminder; the arrows designating rotation should not be seen as “meshing or not meshing”. It is the torque at the 4space interface that determines their behavior.



Vortices that have the same rotation and wake when traveling in the same 3space direction would have opposite 3space twists and wakes when traveling on opposite 3pace directions and will tend to move away from each other and decelerate.



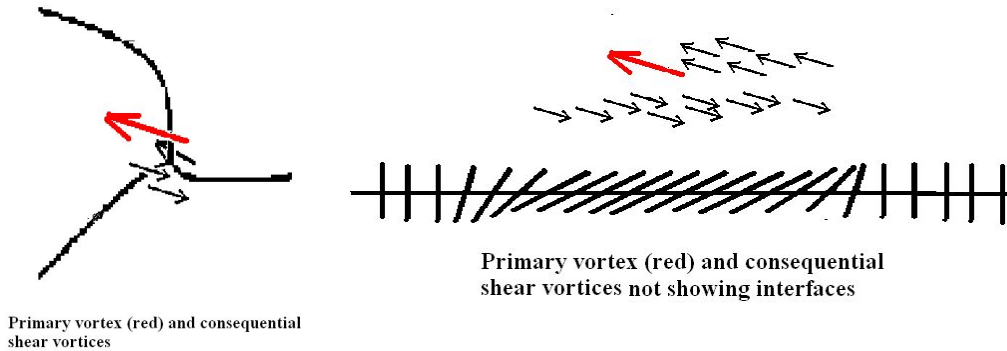
Vortices that have the opposite rotations and wakes when traveling in the same 3space direction will have the same 3space torque presentation and wakes when traveling in opposite 3pace directions and will tend to move towards each other and accelerate

At this point in the dialog some readers may see a connection between the characteristics of these vortices and those of the legendary “monopoles”. This is an accurate observation except the vortices do not have the mass as predicted for monopoles. It will be suggested later that they also have some characteristics of the Higgs boson except again they do not have the mass predicted for the Higgs. This is because they generate mass by their huge accumulations in response to torque. This applies to both gravitational and inertial mass.

The basic rule is that for the most part nothing is attracted to or repelled by anything else in the Quasiuniverse. Things simply follow the contours of the 3space interface. Forces may be emergent properties.

I could refer to the background shear as a quasi gravitational electromagnetic (GEM) field because the drag vortices exert on the advancing 3space interface will ultimately be described as creating effects similar to our gravity. And polarization of the background vortices by the presence of torque will be considered to be organized exceptions or disturbances in its otherwise chaotic field. In this context they become finite fields within the ubiquitous chaotic shear field. The individual vortices within the quasi universal field have some properties similar to the Higgs particle of our universe but are more versatile.

Polarized shear



The diagrams above portray substantial Aleph/Beth vortices or a vortex conglomerate contacting the 3space interface. Small, momentary, background shear vortices are popping up on all of the interfaces around it. These new shear vortices must take on orientations that are forced by the primary vortex's torque. If they are above the Aleph/Beth interface they will be aligned with the primary vortex and travel in the same direction because their rotations are the same. If they are below the Aleph/Beth interface they will have opposite rotations so they will be aligned with the primary vortex but will travel in an opposite direction. In other words these new vortices and the background will become "polarized". The first diagram suggests torque direction around one point the 3space interface.

I would need to draw thousands of diagrams of this torque configuration (on the left and right, up and down, forward and back each with slightly less torque as their position is distanced from the center) to show that the 4space interfaces contact the 3space everywhere and are stressed proportionally.

The second diagram simply suggests that the greatest polarization is near the region of greatest torque. I have included only a sampling of the millions of shear vortices being produced.

Unlike other transverse waves the intensity of torsion waves is measured as torque not height. Objects that approach or (move away from) swarms respond as though 3space is becoming more (or less) twisted and alter their velocities accordingly just as a piece of wood rises and falls with passing waves. This includes the individual shear vortices newly created around and further away from quasi universal objects. They will tend to conform to the torque intensity present even if they are at some distance to the primary vortex pattern. In this context, 4space shear is polarized in varying degrees around the primary swarm. This is also to be expected regarding swarms in motion and the linear vortex patterns that will be described as the various species of quasi photons, In other words, as these objects travel along the 3space interface, the shear adjusts to their passing torque as a concurrent wave of polarization. If the objects are static, they are still immersed in a field of polarized shear. It will be suggested below that even objects that are not quasi "charged" will be have regions of polarized shear and when in motion will travel with paired waves of compatible, polarized shear. One wave would be above the Aleph/Beth interface the other below, these waves are simply equal in intensity.

These characteristics of the sheared interface will also support the waves of torque that travel away from swarms in motion. This torque is maintained by the alignment of the newly created vortices as it moves through regions of the 3space interface.

There is a feedback effect that accompanies this polarized shear. Just as these free vortices respond to the torque patterns produced by quasi light and matter, quasi light and matter respond to the torque patterns produced by these waves of polarized shear.

The concept of polarized shear is the key element of this model. It will be the primary constituent of all quasi matter and energy.

Envisioned Swarms

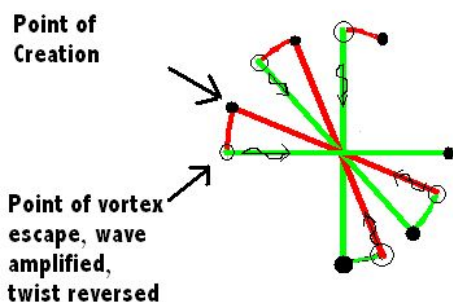
So the quasi universe 3space continues to expand as Daleth continues to intrude between Aleph and Beth. However there is a phase when this expansion slows down and the earlier violent twists around 3space begin to subside. Quasi universe loses its ability to confine the massive streams of vortices because they can not be supported by vortex wakes alone and the developing quasi Plank limit begins to break up the large quantities of energy. I am suggesting that these streams dissipate by shedding their vortices as more stable tiny tubular vortex swarms and photonic structures. As described above, some of these swarms occupy only one side of the 3space interface. Some share a common torque pattern on two sides. Some share common torque patterns on all sides of the 3space interface. Suggested configurations will be described below.

These tiny vortex swarms owe their existence to the resonance allowed by the collapsing twists of 3space described as “quasi photons” below. I am now going to suggest as to how these quasi photons and the vortex swarms might interact with each other.

To illustrate I have isolated two resonant vortex streams from a swarm. This particular swarm occupies only one side of 3space. These two streams are moving around a circle in opposite directions. They are on opposite sides of a common axis, moving counterclockwise but relative to each other they traveling in opposite directions and have opposite rotations.

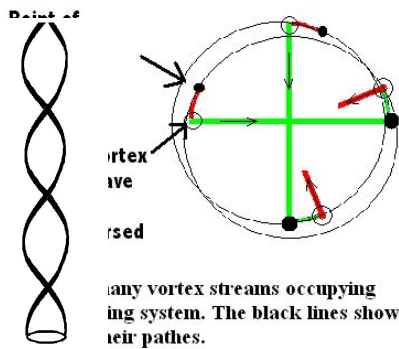
In one stream a vortices twist and pull on 3space, distorting it somewhat. This twist is maintained as long as they remain in contact with the interface but as soon as they escape as a group, 3space rebounds energetically untwisting in the opposite direction. It could twist past the point of equilibrium and continuing to twist in that direction until 3space surface tension slows it down and draws the interface back. If this were the case this energy would be transferred to the adjacent 4space interfaces. It would leave the 3space interface. Instead shear could create a new aggregate of vortices from the initial rebound that prevents the energy from escaping. This is the first phase of a quasi photon that is traveling across the eye to the other side. New vortices are generated as vortices of the quasi photon escape while creating a counter twist of the 3space interface. Each counter twist generates a new vortex aggregate until finally the photon enters the polarized shear on the other side. The first vortex aggregate compatible with the polarized shear remains and does not immediately allow a counter twist. It becomes part of the polarized shear. It is seeded. It is absorbed.

This should allow the waves of rebound torque to travel through the eye via seeded compatible vortex aggregates to the other side. Seeded vortices on all sides of the eye wall could transfer rebound torque back and forth across the eye. This would be the basis for internal resonance.



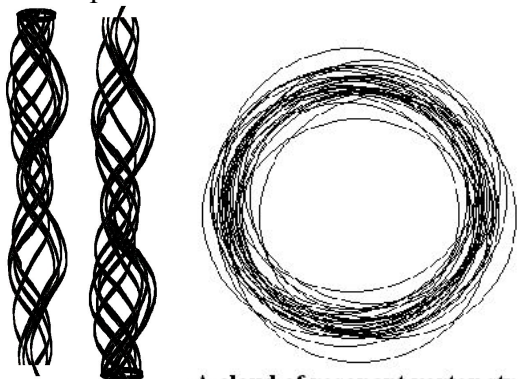
In the illustration all vortices are on the same side of a 3space interface. A vortex aggregate escapes and shear generates another vortex aggregate with opposite 3space presentation from its rebound. The seeded vortex train travels across the eye with the rebound torque wave. These vortices become part of the eye wall. When this absorbed aggregate leaves 3space, it also sends back another torque vortex combination with polarity reversed again which becomes part of the eye wall on the other side.

Allow aggregates within the circle to move forward between the time of their creation and the time of their escape. This will cause the new position on the circle to be forward of previous vortices in the chain of events. Allow the interaction to be repeated continuously. This could be considered to be a resonant system. (In the illustration green and red represent waves of opposite 3space torque or polarity traveling across the interior of the ring. The short curved lines represent how 3space twists while the vortices are contacting it. The empty circles represent the escape of the vortices and the resulting reversal of the 3space wave sending a quasi photon to the other side. The reader can see similarities to the quasi photonic diagram above except these structures might not go through a complete cycle if the interior circle was smaller than the quasi photonic wave length. There may also be larger patterns in which a full fledged quasi photons seed vortices on the other side.



The diagrams to the left suggest the flow of two vortex streams as they are created at the 3space interface and are then pulled away and flow up the connecting 4space interface. The first helix could be a pair with paths up the connecting Daleth/Beth interface. The second could be a pair with paths down the Daleth/Aleph interface. The vortices would continue to exist after leaving the 3space interface because there is even more available sheer present at the connecting 4space interface. These columns are allowed because the 4space interface has all of the directions of the 3space interface plus

one and we have many examples of columns within the 3space interface. The vortices that make up these columns are immersed in 5space fluids and as such affect the fluid motion and pressures. So I will sometime wish to concentrate on the columns 4space nature and at others on their 5space nature



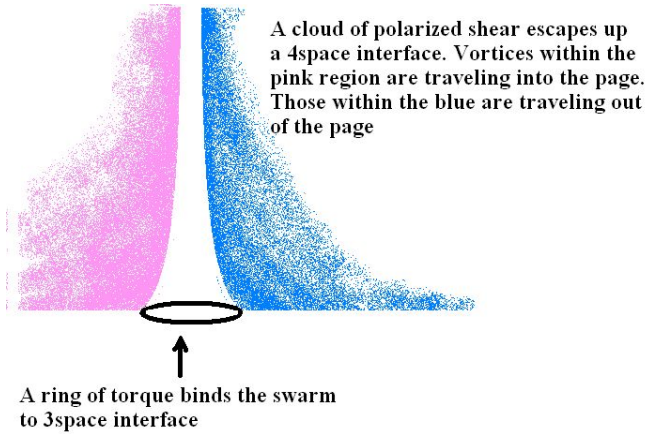
A cloud of resonant vortex streams

And now I will speculate as to what might be some properties of a swarm. The diagrams to the left suggest the flow of vortex swarms as their vortices are created at the 3space interface and are then pulled away and flow up or down their respective connecting 4space interfaces. The first helix is a swarm with a path up the connecting Daleth/Beth interface.

The second is a swarm with a path down the Daleth/Aleph interface. I believe that the helices would be a much more dense cloud of polarized shear that appears to be most solid at the cylinder wall which I have been calling the eye wall. The vortices would continue to exist because even more sheer is present at the connecting 4space interface above (or below). There is a greater hypervolume of 4space than volume at 3space. This interface has sufficient dimensions to allow 5space vortices in tight contact with it to form columns.

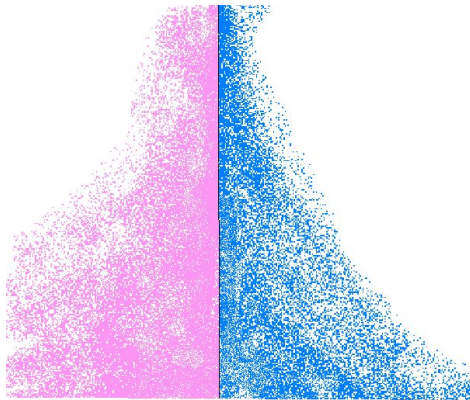
The diameters of these eye walls would be determined by the size of the photonic structures that allow the resonances within them. Let's start with an eye wall diameter created by a photonic

structure of one cycle. As the energy of this eye wall increases the resonate photonic structures within would develop shorter wave lengths (see above) and its eye's diameter would decrease. That is the energy content of various swarms may affect their diameters at the 3space interface. This will be examined in more detail below.



Other considerations may be that the individual vortices within these eye columns and within the polarized shear around them may have quasi particle characteristics and as such generate rotating the columnar fluid structure. All long term vortices within the columnar cloud would be moving around the eye in the same direction but in addition they would be shifting towards the eye wall, because that is the region of most intense torque. They are simply following the rules laid down above. Although no shear vortex

generated here would ever complete even a major portion of the circuit, any object caught within this field would ultimately spiral to the center.



From a distance the cylindrical eye walls could possibly be seen as rotating strings, within huge rotating cloud fields (second diagram). These strings would be perceived as points within rotating cloud fields where they contact the 3space interface.

The cohesiveness of these hypercylinders is maintained by 4space shear and should be sufficiently great such that if their contact with the 3space interface should be distorted, broken up, or subjected to any interference they would still have sufficient cohesion to rebind to the 3space interface

when and wherever the contours of 3space allow. This concept is important because it suggest that a single swarm could have multiple potential 3space presentations at the same time, perhaps as a number of swarm fingers at the base of the primary 5space cylinder. This could be similar to the smaller vortices that accompany several sides of tornadoes in our weather systems except these segments could occur on opposite sides of planes. Just as tornadoes rotate about a central 1spaces (lines) 5space hypercylinders could rotate about 3spaces (volumes).

Those swarms which share a common torque pattern while on several sides of the 3space interface (as described below) are less likely to do this. The common torque forces them to move as a group. They can only move freely and have multiple 3space presentations if they receive enough energy to break away from the group.

The description now is of one resonant vortex stream in a swarm. This is essential because it is the activity within the swarms that helps to hold these things together. Vortices in these swarms will be at different stages in their life spans. Newly created vortices will have characteristics of the torque already present. They will move towards and align with established vortices. So in this version of the Quasiuniverse, I envision columns whose bases at the 3space interface are seen as doughnut or toroidal shaped clouds of circular vortex streams held together by their resonant patterns, their torque wakes and their 4space hypercylinders. I refer to them as “swarms” because once they are established it would be impossible to determine which new vortices on one side of the doughnut were the anti vortices to escaping vortices on the other side however the internal resonances within them could very well influence motion and resonances with adjacent swarms and other aspects of their multiple 3space presentations. These would be chaotic systems with two regions of attraction or concentration. One is determined by their cumulative wakes at the 3space interface and another that results from the flow along the eye walls of their hypercylinders. They would be maintained by the ever present shear between Daleth and the other two fluids. They would be allowed on both sides of Daleth’s two connecting 4space interfaces. The sustained waves from these streams could influence the lifespan and motion of newly formed vortices in other segments of the ring. The regions of attraction could be described mathematically as a fluctuating circle at the 3space interface and as a fluctuating cylinder along 4space interface or perhaps as an axis through the center of a cylinder. These rotating columnar clouds made up of the individual vortices would be larger vortices in their own right. And behave as such.

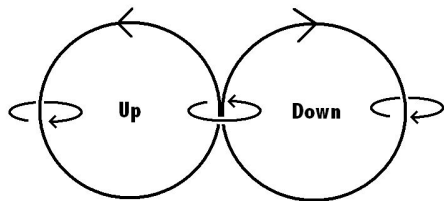
The cumulative wakes should have an emergent property. That of constant pressure on one or more of the connecting 4space interfaces. This pressure could also be described as torsion waves maintained in the 90° position of their phase. That is, at its allowed maximum torque. The presence of the swarm persistently twists or deforms the 4space interface(s) around 3space. As a swarm moves into a region, 3space becomes more and more twisted to the point where it matches the torque pattern within the swarm. As the swarm moves out of the region, 3space untwists back to whatever state of equilibrium it had before the intrusion.

Quasi photons are the linear siblings of the tubular structures that constitute quasi matter (and antimatter). Quasi photons and quasi matter are both patterns of torque at the 3space interface that are maintained by the presence of shear. Quasi photons will be described in more detail and enumerated as to types later when I discuss their properties with regard the interfaces involved, their energy, how far they could travel and how they might experience constructive and destructive interference.

Some Imagined Structures

The modified picture is that of a 5space cylindrical swarm with a persistent somewhat fuzzy doughnut shaped distortion where it contacts the 3space interface that can emit and absorb what has been described as quasi photons. Depending on the circumstances some of these quasi photons pass through the eye and are absorbed by the eye wall on the other side of the swarm and some could escape and react with other swarms and likewise quasi photons that escape from other swarms could be absorbed by this swarm.

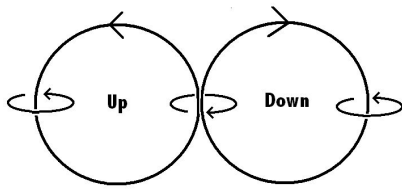
Now I will speculate as to the 3space presentations of some vortex stream/swarm configurations other than the simple single ring pattern that I presented above. The reader should remember that the sharply drawn circles actually represent the attractive region or “eye” within doughnut shaped swarms and that these swarms are actually the ends of rotating 4space cylindrical clouds in contact with 3space. This view is purely introductory and leaves out many other features contributing to these structures



**2 Daleth rings at the Beth interface
(Daleth_b)**

The simplest would be two rings each containing vortex streams all on the same side of 3space. We will use two rings whose columns are within Daleth on the Daleth/Beth side of 3space. They are above the Aleph/Beth horizontal. Shift one 5space column so that its 3space ring is flipped over. This is allowable because all directions in 3space are perpendicular to Daleth and these diagrams are after all only their 3space presentations. Thus the axis at the center of one ring travels “up” out of the page. The axis of the

other ring travels “down” below the page but both stream up the same 4space interface. Place these rings side by side. The vortex streams are traveling around the rings in opposite directions (one wake is \uparrow and one is \downarrow) but the streams at their closest edges are traveling in the same direction and their wakes have the same 3space presentation. Vortices formed within the rings here will be accelerated in the same direction and move closer together. The resonant patterns described above could overlap here and be consistent for both rings and be uniformly resonant with the vortices in the outer regions. The vortex streams at the two outer segments are also moving in the same direction to each other but opposite the direction of the inner segments. There could also be similar resonant patterns between other segments within the two rings enhancing the stability of the structure. It will be suggested below that any additional energy given to this structure which causes it to shift along the 3space interface will be maintained by this internal feedback. The resonant rings of two copies of a single vortex species could not stack on top of each other because their 5space columns traveling up the same side of the connecting 4space keep them separated. These columns are not allowed to occupy the same volume on the same side of a 3space interface. (It will be suggested later that columns on opposing sides of interfaces can and much of the time do occupy the same volume.)



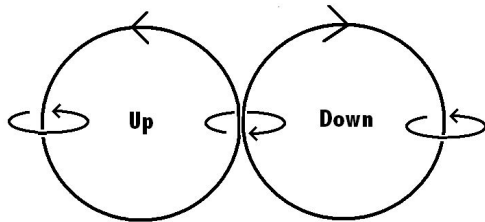
**2 Daleth rings at the Aleph interface
(Daleth_A)**

The illustration on the left suggests a similar structure for two Daleth systems at the Daleth-Aleph interface.

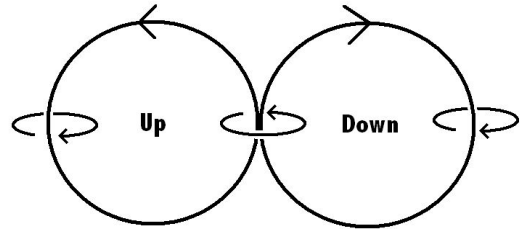
All of the same rules apply except the 3space presentations of the vortex streams have opposite 3space twists to that of the diagram above. They are below the Aleph/Beth horizontal.

These Daleth@Aleph pairing and spin orientations will be important contributors to quasi universal configurations. The torque at the 3space interface, (where these rings touch), will be at times so powerful that it will override all of their other activity.

I will call Daleth@Aleph swarms Daleth_A and Daleth@Beth swarms Daleth_B.



**2 Aleph rings at the
Aleph/Beth interface**



**2 Beth rings at the
Daleth/Beth interface**

The two diagrams above are of Aleph and Beth vortex stream ring pairs. Notice that the Aleph rings contribute the same pattern of twists to 3space as the Daleth at Aleph rings. And that Beth streams match the Daleth at Beth patterns.

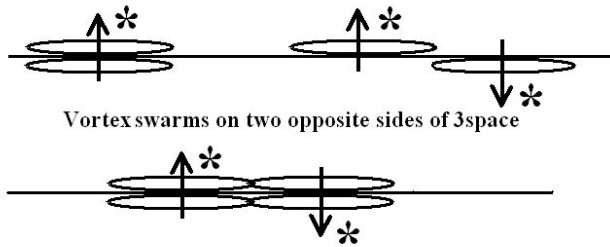


Vortex swarms on the same side of 3space

All of the ideas above suggest that under the right conditions vortex stream rings can resonate and thereby form attachment with other rings on the same side of 3space. This will become more important as I attempt to link larger systems.

Another factor that may contribute to the overall stability of a system is the shape of Daleth as it intrudes between Aleph and Beth (bubble on ceiling or floor). The difference in interface angles should contribute to a difference in the intensity of activity allowed at the various interfaces. However this effect could be somewhat softened by the presence of the vortices themselves. Wherever there are vortices present, there should be small indentations in the advancing Daleth front. This is because when these fluids are forced to travel as turbulence instead of in a laminar flow, they must travel farther. Increased speed compensates but since the vortices still pull on the 3space interface before they actually escape up the 4space, they exert

drag on the advancing 3space interface. These are places where the angle of advancing Daleth is blunted.



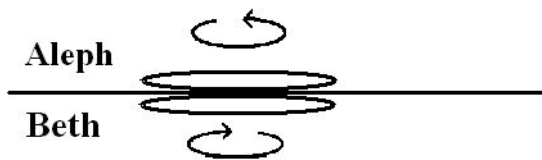
Vortex swarms on two opposite sides of 3space

Multiple pairs of vortex swarms on two opposite sides of 3space

The above concepts segue into two partition systems occupying two sides of 3space. They can, when conditions allow, form the side by side connections similar to the systems that are on the same side of 3space. But often they will contact **the same volume** of the 3space interface on either side. The two configurations could also allow resonant activity between multiple two swarm systems but they must follow the rules

of 3space orientation as described above.

I have asterisks with the orientation arrows because if the both systems are above or below the Aleph/Beth horizontal, they have obvious rotation. This is because Daleth at Beth and Beth swarms both rotate together in the same direction. Daleth at Aleph and Aleph swarms also rotate together but in a direction opposite the swarms above the Aleph/Beth horizontal.



A Beth and an Aleph ring at the Beth/Aleph interface.

They rotate in opposite directions

However when an Aleph swarm is paired with a Beth swarm they rotate in opposite directions even though they are following the same resonances and torque pattern at the 3space interface. They can do this because they are on opposite sides of the interface and do not actually touch each other. It could be a major configuration of quasi matter within the quasi universe similar to our “dark matter”. It would be undetectable because there will be no apparent 3space rotation and also there is no involvement with Daleth.

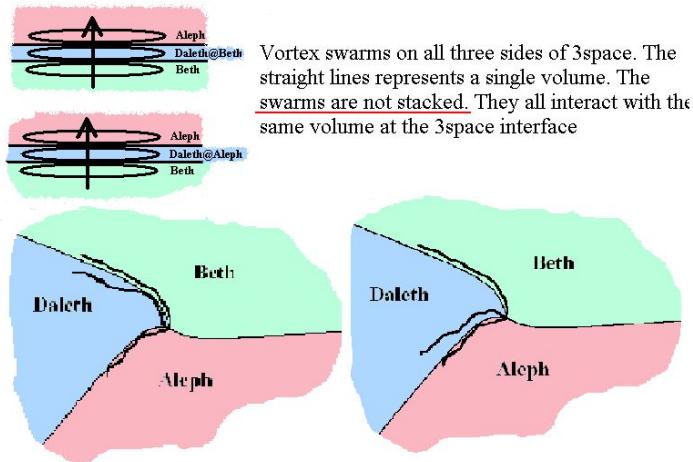
Aleph or Beth paired with Daleth would

have charge, be easily detected and have definite rotation. It will be suggested below that most forms of energy involve waves engendered by Daleth configurations either alone or in concert with Aleph and/or Beth structures. Without this Daleth involvement, all configurations of these Aleph and Beth swarm pairs will have little or no apparent differences in rotation and therefore no predominant torque for interaction. This will be expanded on in the sections “Quasi inertial mass” and “quasi charge”. They could even form large conglomerates as described above without exposing their presence except by indenting the 3space interface.

These configurations should also occur with Daleth_B and Daleth_A swarm pairs. However Daleth_A paired with Daleth_B swarms would both in the same fluid on conjoined sides of the 3space interface. So they would be short lived, annihilating each other if their torque is not controlled by supporting swarms on the other two sides. This annihilation would also disrupt any swarms closely associated with them. This will become easier to visualize after discussion below.

This seeding of vortices of opposite rotation traveling in the opposite direction is not as crazy

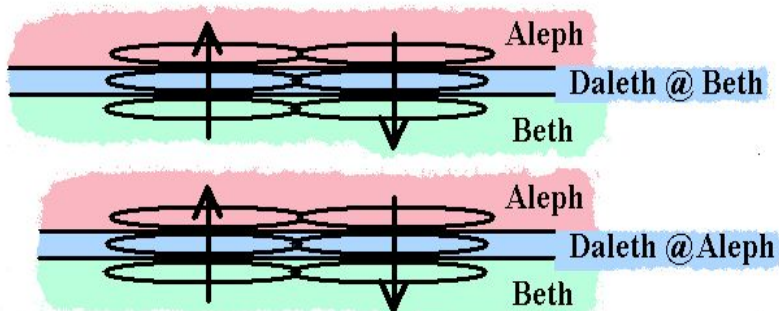
as it seems when one considers that a quasi photon entering a region of high torque can seed vortices in any of the adjacent fluids. It is just more likely to do so in some fluids than in others. If the densities, viscosities etc are very close, the chances become nearly equal for all and the shear available at that particular side of the fluid interface will determine vortex rotation and direction.



We can now involve all three sides of the 3space interface. The diagram at the left suggests some aspects of a three swarm system. These swarms are not stacked. They all have intimate contact with the very same volume of 3space. In the lower figure you can see that their cylindrical eyes travel along different sides of the connecting 4space interfaces. They all are held in place by the very same pattern of torque. I show configurations that have either Daleth_B or Daleth_A swarms. They are

not totally equivalent. One situation is more likely to occur than the other because of the bubble on the ceiling or floor affect

Other observations by the above diagram are that the eye walls of these swarms might be described mathematically as fluctuating closed one dimensional lines (closed strings) where they contact 3space and their cylindrical eye walls traveling along the 4space interfaces as fluctuating open one dimensional lines (open strings) when viewed from 5space. Equations would be less likely to develop infinities because neither the swarms nor their vortices are point like objects.



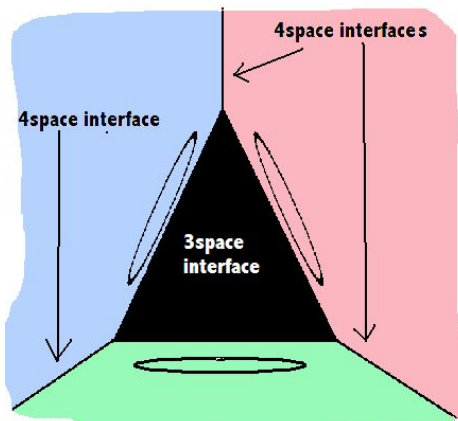
Vortex swarm trios can also overlap at their edges

This diagram suggests how cylinder's bases could interact or combine through common torque on adjacent sides. In this situation they must have opposite intrinsic rotation. They can do this because 4 and 5 space interfaces are perpendicular to all directions of 3space. Aleph and Daleth@Aleph swarms will always rotate in opposite

directions to the Beth and Daleth@Beth swarms but the apparent trio rotation will be that of the swarm majority. The up and down attributes only apply to the trio's relationships. They can be in any orientation as far as 3space is concerned.

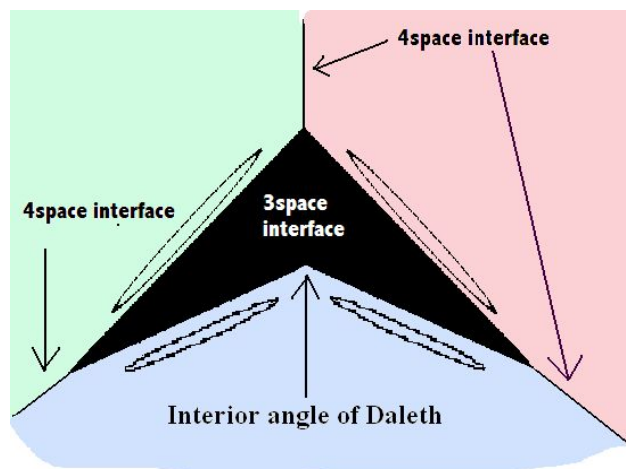
Each trio shows a definite direction of rotation because the 3space presentation of the one swarm is overpowered by the double 3space presentation of the other swarms.

The intimate contact of the three swarms with the 3space interface should be extremely stable. The overlapping of their edges will also be very stable especially with some help from an opposite Daleth swarm. The term overlapping is a little deceptive. These structures are sharing the same torque pattern and since the shear at the interfaces can only support a specific number of vortices in any one region, the numbers of vortices present here are similar to the numbers present elsewhere in the rings. In other word it takes fewer vortices to maintain paired rings than it takes to maintain individual rings. “But wait there is more” as they say on TV. This will happen with the double Daleth contribution.



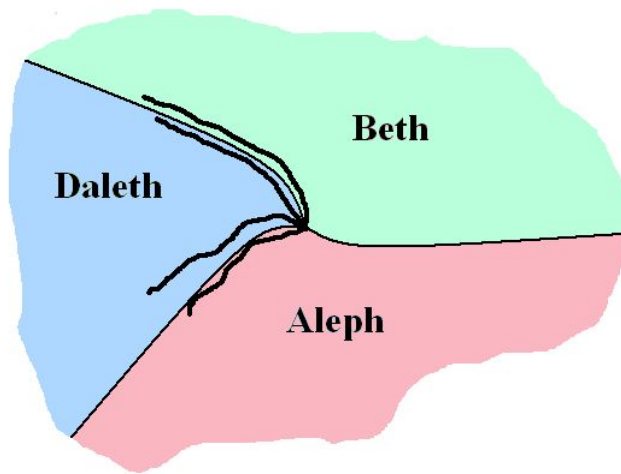
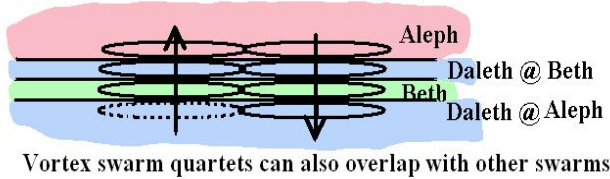
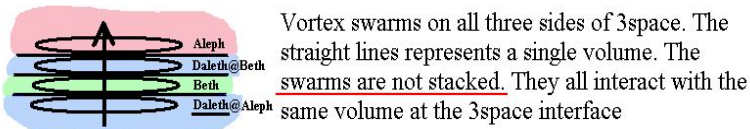
All three swarm rings are resonant with the same volume of the 3space interface.

A Daleth_B swarm will have a slightly different relationship with its 4space interface mate than a Daleth_A with its 4space interface mate. I refer to them as “mates” because the escaping streams of either Aleph or Beth pairs travel up (or down) opposite sides of their respective 4space interfaces. Daleth_B swarms exist in a fluid that has slightly higher density than the fluid supporting the Beth swarms. Daleth_A swarms are in a fluid that is slightly less dense than the fluid supporting Aleph swarms. This combined with the bubble on the ceiling or floor effect



All four swarm rings are resonant with the same volume of the 3space interface

described above suggests that their angles toward Aleph/Beth 4space interface would be slightly different. These property differences would influence how likely a Daleth swarm of either species would remain in contact with swarms on the other two sides. Allow for the purposes this discussion that quasi matter consists of trios with Daleth_B swarms and quasi antimatter consists of trios with Daleth_A swarms; then it is possible that the conditions, described above, could allow the trios that are quasi matter to be in greater numbers than those that are quasi anti matter.



5space view Aleph Beth and Daleth Quartet

The diagrams at the left suggest other potential relationships. I cannot emphasize enough that all these swarms are contacting the same active volume of 3space (black) in the same way four rods could contact the same portion of a rope stretched in parallel between them. They all touch the same portion of the rope regardless of the angles of their positions around the rope. The same is true for these swarms. They all contact the same volume of the 3space interface regardless of the angles of their positions around the 3space interface. Thus two Daleth swarms may touch the same 3space volume. One whose position is next to Aleph and one whose position is next to Beth. The maintaining of the common torque by Aleph and Beth swarms prevents the annihilation described above. Annihilation

happens only in situations where the torque between Daleth_A and Daleth_B swarms is produced solely by them or if a Trio_A comes into contact with a Trio_B. It will be suggested below that free Daleth swarms can have a greater affinity for each other than for their cores. It could be a property similar to this that causes annihilation between quasi matter and quasi antimatter. It will also be suggested that Daleth swarms are subject to momentary wandering.

Now back to the variations between Daleth swarms. Their angles around the 3space are not symmetrical. One will have a greater tendency to participate in these three ring structures than the other. That does not mean that the second species can't participate. Only that it is less likely to. And when it does participate it may be likely to fluctuate between adjacent structures as in the diagram below.

The sheared interfaces have limits in the numbers of vortices they can support. When they are supporting their maximum numbers of vortices, I will call this their "saturation point". Static torque present will not be reinforced by any additional vortices unless the system is put into motion and moves onto freshly sheared interface. Individual Daleth_A vortices formed within regions where the conglomerate swarms overlap are traveling in the same direction until they reach some point where they must divide, pulled by torque into either the swarm on the left or

right. If torque is the same in either direction, than they will tend to move into the volume with lower saturation and fewer vortices

Tom Siegfried said in his article “Quarks celebrate their 50th anniversary” Science News, January 30, 2014

“While the simple picture of up and down quarks making neutrons is essentially correct, real life adds some confusing complications.

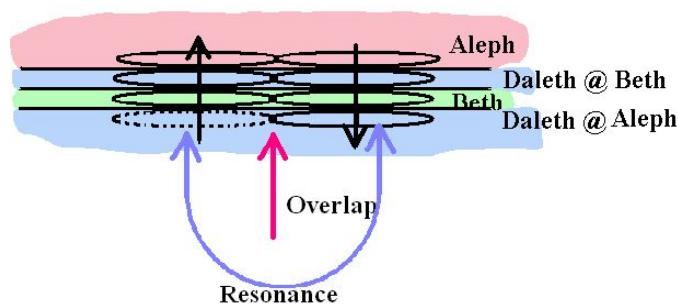
In quantum physics, as in spy movies, nothing is ever exactly as it seems. Within a proton, for instance, the two up and one down quarks are not alone. Quantum physics allows other quarks (known as “sea quarks”) to pop in and out of existence. Within nucleons (protons or neutrons) some of those sea quarks are the strange (and antistrange) variety. Various properties of nucleons depend on how much strangeness they contain. It’s an important factor, for instance, in experiments trying to detect the mysterious dark matter in the universe. Less strangeness in the nucleon reduces the likelihood of interaction with a dark matter particle, making detection more difficult.

For the last decade or so, determining the strangeness content of the nucleon has been a major emphasis in nuclear research, but the findings have not been consistent. Various reports (such as [here](#), [here](#) and [here](#)) don’t all agree with previous work. So experts are still struggling to figure out just exactly what protons and neutrons are made of.”

This is understandable. If one considers the activity within a 5D partition to be equivalent to one of our “quarks”, a Quasi neutron consists only of three “quarks” one of which is “strange” In the three quark system one must use fractional charges to make the neutron neutral. The debris found in collision would indicate an apparent extra “quark”. This would be a “sea quark”.

If one considers the individual swarms to be equivalent to one of our “quarks”, a quasineutron consists of four “quarks”. No ‘sea quark” is needed. Nor are fractional charges needed.

Let’s arbitrarily make conditions such that it is the Daleth_A swarms that are the species less



Vortices on the same side of 3space are traveling in the same direction where they overlap. Daleth@Aleph is resonating between both structures

in the “no man’s land” between the rings, they will tend to flow into the volume with lower saturation. Fragments of the original swarm may be left behind. These would provide sufficient

likely to participate in larger structures. One could even describe them as capricious. If a Daleth_A swarm is a component of a quartet structure that is connected to a trio structure (see diagram at left) it is in a very different situation from that when it is unincorporated. While it is participating in one of two connected structures the shear in that volume of 3space is closer to saturation than in the volume occupied by the other connected three swarm volume. When vortices of the Daleth_A swarm are created

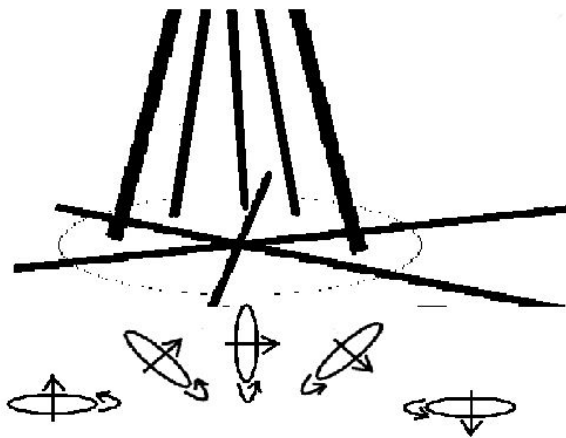
additional torque to the abandoned system for when vortices of the swarm which are next created in “no mans land” return to what is now the unsaturated volume. In this scenario the Daleth_A swarm resonates between the two larger structures. What is more the swarm’s ability to have multiple 3space presentations facilitates this. It can be bound to two separate torque patterns. The single 5space column is touching the 3space interface in several places (see diagram below)

There is another possibility. Daleth_A swarms tend to form pairs. This is with each other and with swarms on the other sides of the interface. The only restrictions seem to be:

1. That their axis orientations (up and down) must be compatible and
2. They cannot remain paired with an anti structure within the same fluid without undergoing annihilation.

It’s conceivable that a Daleth_A swarm could momentarily pair with a Beth dominant trio and not share the total torque pattern.

Another possibility is that they may form hybrid structures. These structures may have qualities of both situations.



4space column shifts changing its 3space spin

Recall these things are not little balls. They are 3space presentations at the ends of 4space columns or strings. The diagram at the left suggests what might happen as a 4space Daleth_A column shifts from one side of a plane within the 3space interface to the other. The swarm column is traveling along the connecting Daleth/Aleph 4space interface. The 3space presentation of the spin at its base appears to reverse magically when all that really happened is the 4space column shifted slightly. The totality of the 3space interface is perpendicular to these columns. This suggests that a minor shift could place them on the other side of a plane where their spin would be reversed. It also suggests that with very little

effort a swarm might not only flip but could flip back and forth continuously. A 4space column could take on any 3space orientation through minor shifts.

In other words I find it easiest to visualize these columns as 4space pendulums in contact with the 4space interfaces coerced into figure eight or more complex swinging loops over the 3space interface. One lobe of a path could be tethered to the primary torque pattern of the swarm conglomerate. The other would be anywhere on the periphery with an orbital spin of opposite 3space presentation. It will be suggested below that these 4space pendulums could follow truncated looped patterns between adjacent swarm conglomerates and that these patterns would be chaotic with attractive regions. Further more these swinging 4space pendulums when they are tethered by situations other than close associations with swarm conglomerate or even untethered could still exhibit this chaotic looped pattern. These pendulums are 4space constructs that are associated with shallow 3space indentations (see quasi gravity below) and as such will many times swing in patterns in which none of the lobes have their core companions in the center. In this situation their 3space presentations could even occupy regions on two or more sides of the

cores.

Furthermore the bases of these rotating columns and clouds could fragment at 3space interface in ways similar to the patterns tornados form with their ancillary vortices. When this is the case they are in superposition. They have a number of 3space presentations at the same time and will not establish a permanent state until they encounter a torque pattern that forces them to do so.

If the reader is to understand the above scenario he needs to try to view both sides of all planes and both directions of all axes that are part of the 3space interface as perpendicular to the direction of Daleth expansion and these columns.

This more detailed picture suggests a number of interesting phenomena.

A device could divide a stream of Daleth_A swarm pairs into two streams each with opposite spins. If these two streams are removed from the device's influence and reexamined later they could be found to have reestablished as of pairs of swarms each of which has a spin opposite the other.

Hybrid forms in which swarms change spin with their position become allowed.

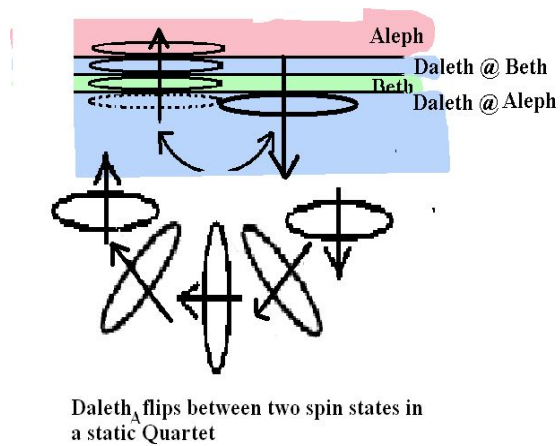
Most of the time one could not determine the spin or position of a swarm until it reaches some ground state. These oscillations between a swarm's potential ground states and its fluctuating cloud of polarized shear will become the basis for quasi superposition below.

Swarms could spin in opposite directions and still present the same patterns of torque around 3space.

All swarms, whether bound by common torque or free on just one side of 3space, would express these properties which allow complex rotation and other motions at the 3space interface that would not be possible otherwise.

So I suggest that there is also a possibility of Daleth_A swarms shifting back and forth between a full torque state and a state similar to the pair bond state (see below) with what would have

been a Trio_B but is now a Quartet. This would be the case if the Quartet was not paired with another Trio_B. That is, it is sitting alone or traveling alone across the 3space interface. If it were static, the structure probably could not be maintained for very long because the Daleth_A swarm switching back and forth could be very sensitive to interference. However motion across the interface would create additional surge torque (described below) which would help to shore up the structure. This additional velocity would facilitate the full torque state of the Daleth_A swarm. (In the diagram arrows within the circles indicate spin.)



Splash!

When two conglomerates are forced together with sufficient force to disrupt and fragment their structures, the types and numbers of fragments created should reflect properties of the disrupted swarms and the 5space hypervolumes they occupy. This would also include properties of the particular connecting 4space interfaces they originally occupied. That is the Aleph swarms of the conglomerate would generate more Aleph swarms, some of which could be paired with Daleth or Beth swarms. The same may hold true for disrupted portions in Beth and Daleth. In other words the tripartite nature of quasi universe will be reflected by the types of fragments produce in the collisions. The high torque (quasi mass) at the 3D interface in high energy collisions would also have a smaller chance of creating swarms within unoccupied interface partitions. For instance some of the collision of high velocity quasi protons would create some swarms within the Daleth_A partition {discussion below}. These would show up in the debris but there would be not as many as is seen in the quasi neutron collisions. These debris fields should be similar to those generated by the “sea” and “strange” quarks in the “Standard Model” of our universe

The quasi universe would have partitions rather than quarks. Quasi baryons would have swarms within all three partitions (three quarks). Quasi mesons would have swarms in two partitions (two quarks). Quasi lepton swarms would occupy only one partition and would not be perceived as quarks. We could call the swarms within Beth “up” (or “top” in higher energy configurations) with Beth quasi charge as defined above and the swarms within Aleph “down” (or “bottom” in higher energy configurations) with Aleph quasi charge. The Daleth partition could be classed as “strange” with the capabilities of producing combinations of daughter products in which one has an Aleph quasi charge and the other a Beth or one of each. The debris from a conglomerate containing only a Daleth_A swarm would suggest quasi strange number +1. The debris from a conglomerate containing only a Daleth_B swarm would suggest quasi strange number -1. Or the debris from a large conglomerate with both sectors of Daleth filled would have daughter products whose charges canceled each other but suggested a quasi strange number 2. Thus within the quasi universe “strange numbers reflect the numbers and types of swarms present within partitions.

To expand on this idea, quasi nucleons with a solo Daleth_B swarm (strange number +1) would consist of this and another Beth quasi charge to equal two Beth quasi charges (+2). Add to this an Aleph quasi charge (-1) within the third partition. The overall charge of this quasi nucleon would be +1 and within this version of the quasi universe would be quasi matter.

Similarly those quasi nucleons with a solo Daleth_A swarm would have over all whole Aleph quasi charge (strange number -1) and within this version of the quasi universe would be quasi antimatter.

If there is one of each (that is a Daleth_A and a Daleth_B swarm) within the Daleth partition the strange number is 2 with a quasi charge of 0. All quasi charges cancel out. In this case there could be quasi neutrons and quasi anti neutrons that differ only in the relative positions of the Daleth swarms within the “strange” partition, meaning that because of its position one Daleth swarm is more accessible to the outside world (see “Some imagined structures” above). If a quasi

neutron with an accessible Daleth_A swarm contacts a quasi anti neutron with an accessible Daleth_B swarm they would likely annihilate each other.

The math for quasi universe would be somewhat different from the math for our universe in that there would be no fractional charges but the total charge for quasi nucleons or conglomerates would still be zero or whole integers

The “strange” property above could also apply to any partition(s) that might contain multiple swarms due to unusual (very high energy?) circumstances. But multiple swarms within Aleph could only produce Aleph charge and swarms within Beth could only produce Beth charge. In these situations the swarms might have the side by side configuration and be “up” or “down” relative to each other similar to Daleth pairs described above.

Swarms unpaired across the 4space interfaces within the Aleph or Beth partitions could only remain in contact with the 3space interface if they have very high torque (energy/mass) and then not for very long because they would eventually be swept away by the backflow. However their torque would remain behind because it would be captured immediately by the shear which would reallocate it as quasi photonic structures, paired swarms or tripartite structures. The only solo swarms allowed permanence would be those within Daleth which are kept against the 3space interface by Daleth’s advance.

These ideas regarding the three partitions of the quasi universe, parallel the concepts of quarks in our universe in as much quarks can exist only in pairs or triplets, until one considers the Daleth_A swarms (quasi electrons) and Daleth_B swarms (quasi positrons). Because they occupy only one partition, they could be considered unpaired quarks or leptons in our universe.

This also suggests the possibility that solo swarms within any partition would also have characteristics of leptons in our universe. However they could exist only at very high energies/mass (torque) for short period of time before they swept away by the back flow of Aleph or Beth leaving their torque behind. This torque would immediately be recaptured by background shear to form other structures.

Some interaction could form debris conglomerates that are so large that they could not be supported by available shear. These will be short lived and undergo decay. Some fragments could remain intact and still reflect all sides of the 3space interface but other decay fragments could follow some patterns similar to these:

Those that occupy:

One or both sides of the Daleth/Aleph interface. The Aleph portion of these fragments would tend to be swept away by the Aleph flow leaving behind a very energetic Daleth_A swarms and excess quasi photonic energy generated by fragmentation of the original torque. Torque always remains behind through capture by shear.

One or both sides of the Daleth/Beth interface. The Beth portion of these fragments would tend to be swept away by the Beth flow leaving behind a very energetic Daleth_B swarms and excess quasi photonic energy

One or both sides of the Daleth_A/ Daleth_B interface. These fragments when paired would annihilate each other leaving behind high energy quasi photons.

Both sides of the Beth/Aleph interface. These fragments would be stable but undetectable. They could only exist if they had higher than normal torque anchoring them to the 3space interface. Otherwise they too would be fragmented and swept away. This additional torque would give them high velocity and high quasi mass. These Aleph/Beth duets could actually be a major portion of quasi matter in the quasi universe.

This list is not comprehensive. I'm sure there are many possibilities that I haven't considered. New configurations that are still too large to be supported by available shear would decay as they lose velocity. They would release quasi photons and smaller configurations.

If the smaller configurations are still too large, they in turn will release quasi photons and even smaller configurations.

This process would continue until all daughter products could be supported by the available shear permanently or at least have reasonable stability for some indefinite time.

Many of the new swarms could take on configurations similar to those shown in the section entitled "Some imagined structures". They also could take on many configurations not shown.

In the quasi universe mass is produced by the interaction of torque and background shear. In our universe it is produced by the Higgs boson. It is likely that within the quasi universe, conglomerate collisions of sufficient energy could produce "particle zoos" and swarm conglomerates with decay patterns similar to those expected even from the Higgs boson but these fragments would not be the cause of quasi universal mass only an expressions of its reallocation.

When the energy (mass/torque/indentation shape/velocity) is optimal, collisions could produce some conglomerates with swarm numbers that would not ordinarily be supported by available shear. (I used / marks instead of commas to remind the reader that within the quasi universe all these properties are expressions of a single energetic value.) These conglomerates would have extremely short half lives.

In addition there should conglomerate patterns associated with specific energy ranges. There likely could be sequential energy levels that produce specific fragmental patterns. The internal resonances within the swarms and their quasi quantum states at impact would determine the probability of the patterns created. These created patterns could vary with stepwise energy levels and be observed as resonances.

One possibility is that of a decrease in the diameter of a swarm's eye, where it contacts 3space, in response to shorter wave lengths of internal resonant photonic structures. This wave length would shorten in response to increased energy as suggested in "Intro to quasi photonic patterns" below. This would create increasing instability on the main column along the 4space interface which has a diameter that is imposed by 5space forces. The swarm's eye wall 3space diameter would continue to shrink with increasing energy until the resonant photons were small enough to fit multiple cycles into what is a compatible 3space eye wall diameter. At this point the swarm would expand to its original diameter but with the new photonic pattern having higher energy and frequency and shorter wave length. It is actually a new energy configuration and it would be seen to produce a different debris pattern in collisions at this new energy. This new energy configuration might be analogous to one of imaginary quark properties such as "charm, top, or bottom" in our universe.

Introduction to quasi inertial and quasi gravitational mass.

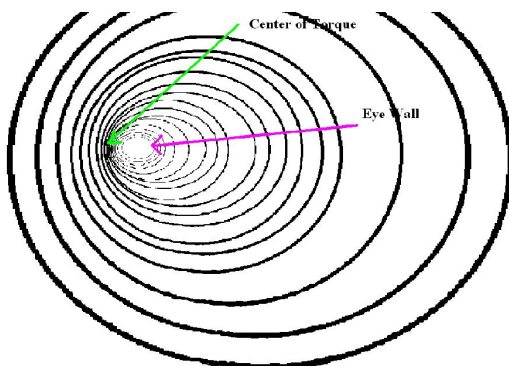
Quasi inertial mass

The effects of moving onto unsaturated 3 and 4space sheared interfaces are important because when they are combined with other factors, they could be responsible for a number of phenomena. Among them the increased quasi inertial mass when systems are in motion and ultimately the loss of quasi mass when unconnected swarms connect (see “the limitations imposed by available shear” below).

If swarms were not moving, their 3space torque patterns would uniform tori. But when they are placed in motion for what ever reason, the vortices in that segment of the circular swarm which move in the direction of overall motion, must have greater energy and will create a region of greater torque. There will also be more of them because as they shift onto newly sheared “unsaturated” interface, there is greater opportunity for additional vortices to accommodate and maintain this additional torque.

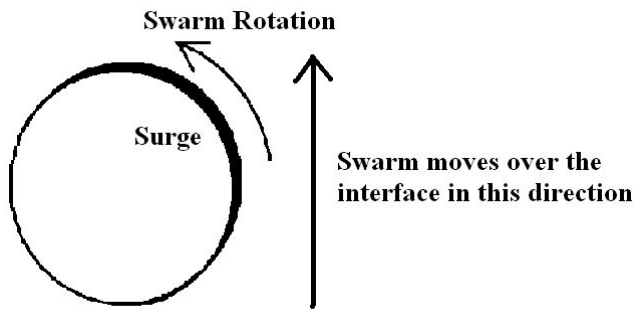
This is somewhat like a hurricane approaching the southern beaches of the US over the warm waters of the Gulf of Mexico. The winds and the surge are greatest in its northeastern segment because that is where most of the energy is. The wind speed there is the sum of the speed of the wind around the eye and the speed of the hurricanes forward motion. It is also moving onto warmer water which provides additional warm moist air to fuel the hurricane. It mixes cool deeper water with warm surface water as it moves so the surface behind it is always cooler than the surface in front of it. This encourages its forward motion. It follows available energy.

One could also describe the swarms in a similar manner in that the increased numbers and intensity of thunderstorm cells generated as the hurricane moves onto new warm water is analogous to the increased numbers of vortices generated in the swarms as they move onto unsaturated, newly sheared interfaces. The energy as shear on the forward side of a swarm would be greater than the energy on the back side because there, the shear energy has been used up (for the moment) and the interface is in the process of building up new shear. I will be calling the increased torque on the one side of the swarms “surge” because I think of it as similar to the surge of a hurricane. However these “surges” are different in that the amplitude of hurricane surge is measured as “wave height” but the amplitude of swarm surge is measured as “torque”. This torque could be applied to one or both of the connecting 4space interfaces around the 3space interface. The presence of the swarm would alter the contours of the 3space interface such that the connecting 4space would become blunted and more perpendicular the Aleph/Beth interface. This would allow greater numbers of 3space shear vortices and greater torque at the swarm’s interface.



Another factor that needs to be considered here is the way vortices concentrate into centers of greatest torque as suggested about photonic structures below. One would be tempted to consider the “eye wall” as the center of greatest torque but when we consider that there is no torque inside the eye wall then we must consider that there is greater torque outside the eye wall. If this is the case eye wall vortices will attempt to shift into this

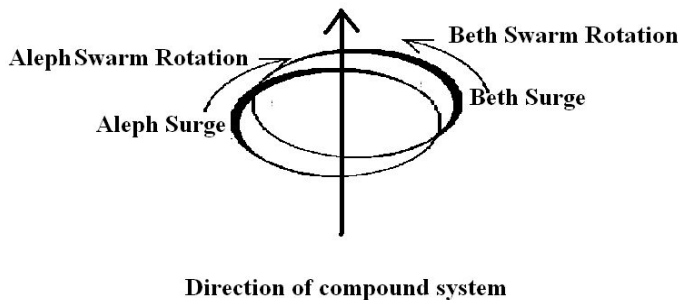
region dragging the swarm center with them. So the picture now is of a rotating peripheral swarm field shifting towards a center of maximum torque outside the eye wall and a rotating interior swarm field moving towards that same center of torque dragging the swarm center with it.



The diagram on the left illustrates how surge torque might look. It is the 3space presentation of an unpaired solo Daleth swarm. The reader should remember that the swarm rotation here (and in all of the other diagrams) is the 3space presentation of rotating 4space columns that extend up their adjacent 4space interfaces and that many of the effects attributed to quasi inertial mass are influenced

by the imbalance of the swarm structures in the columns above the 3space interface.

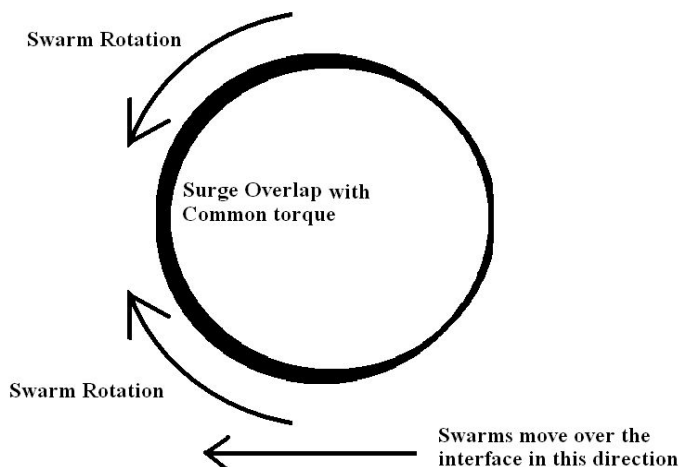
There would be two variations of this particular swarm species. They would occupy only the Daleth 5space. One of their cylinders of escaping vortices would go along the Daleth/**Beth** 4space interface. The other would go along Daleth/**Aleph** 4space interface. It will be suggested that this associated with only one side of a 4space interface would allow them greater options for 3space presentation.



A major condition that has no analogy is that multiple swarm configurations could be like compound hurricanes. These would be duets, trios and quartets, that are moving over and sharing the same 3space interface but on opposite sides or in different positions around that interface. This allows the two cylinders to rotate in opposite directions without clashing with one

another. They don't actually touch. They just follow the common torque around the 3space interface between them.

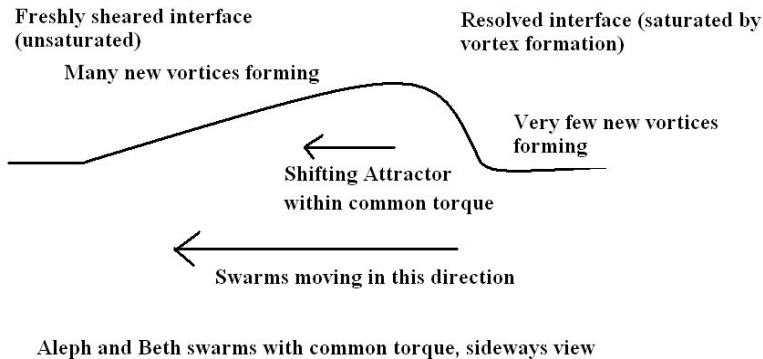
The upper diagram suggests an exploded view of paired Aleph and Beth swarms on two sides of the 3space interface sharing the same torque. This particular structure would be invisible in the quasi universe but it will be suggested as a major form of quasi matter below.



The second diagram is rotated 90°. It suggests how the common torque could exist as a surge on the entire forward half of the structure in contrast with the surge torque on the right or left of the Daleth swarms above. The shared surge

An Aleph and Beth swarm with common torque at 3space

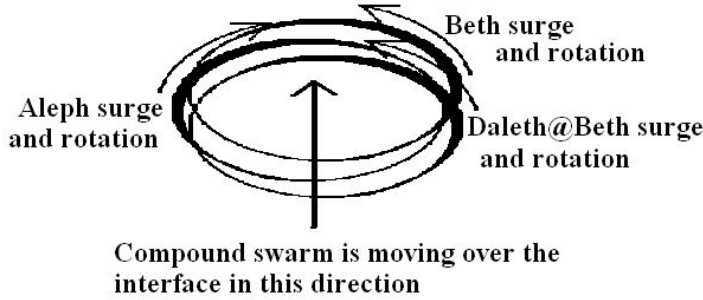
torque in this case is symmetrical. Torque's direction in the different segments varies as we move around the swarms. Torque on the foreword side is most intense. The rotation of the swarm on the Beth side (top) is opposite that of swarm rotation on the Aleph side (bottom). However they have the same 3space presentation although their vortices have opposite rotation they are also traveling in opposite directions (above and below the 3space interface). The Aleph and Beth torques are of equal intensity. It will be suggested later that configurations that have equal intensities of their Aleph and Beth torques will not influence or be influenced by any of the unbalanced configurations or their wakes.



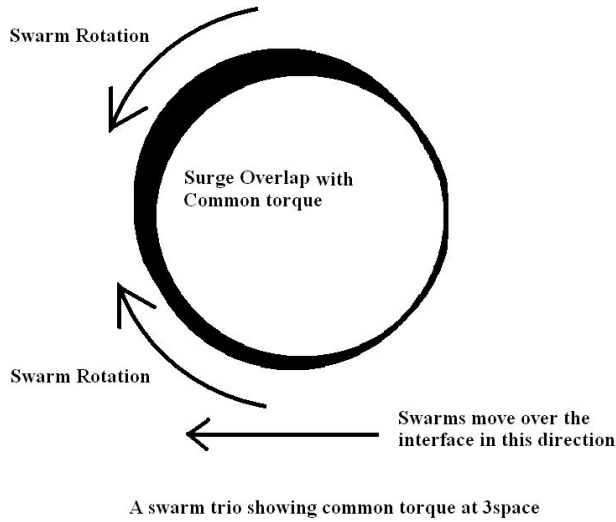
The diagram on the left is a graph suggesting that vortex formation would be more likely on the unsaturated, freshly sheared interface than on the saturated, resolved interface. This imbalance would tend to continuously shift the attractive region or position of highest torque forward. The vortices created will be aligned with and contribute to the overall

torque pattern. Some of these new vortices are close enough to join the central swarm at “the eye wall” others contribute to the field of polarized shear around the swarms. If this structure is accelerated, the torque on the forward side will increase and the attractive region's rate of shift would also adjust to compensate for the new velocity. Once the torque has increased, this new rate of shift will be maintained by motion over newly sheared interface where there are more vortices available to maintain it.

When we add a third swarm to the common torque (that is a Daleth_A or a Daleth_B swarm) we create an unbalanced torque pattern.



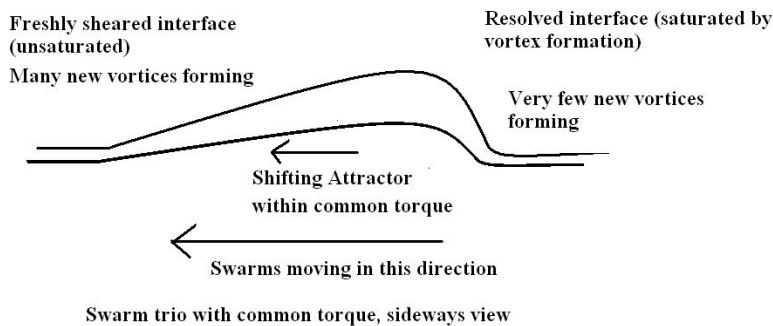
The second diagram is rotated 90°. It suggests the lopsided torque pattern that might develop when the additional Daleth@Beth (or Aleph) swarm is present. This torque pattern is not only unsymmetrical, it also has a predominant Beth (or Aleph torque because the torque on one side is



twice that of the other. The swarm with the odd torque should still contribute to the common torque pattern but it extends it around the ring such that this swarm conglomerate has two 3space presentations that are opposite each other. The weaker presentation would cancel out the torque of one of the other two swarms and the overall effect would be that of the torque from the remaining swarm. This structure will be shown to be sensitive to the wakes of other unbalanced swarms and that its wake can also influence these other swarms. However the two presentations will have additional effects to be described in the section entitled "Intro to

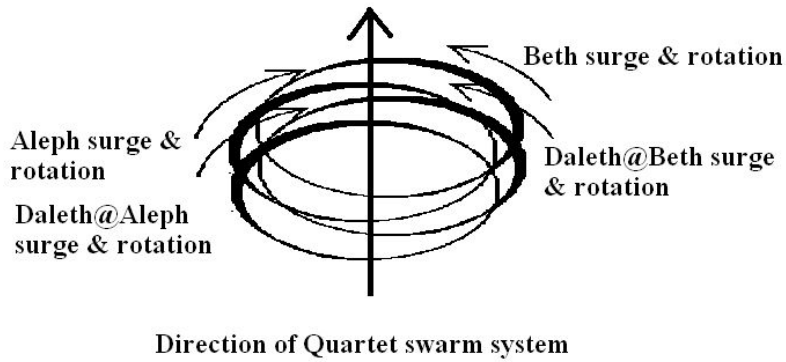
quasi quantum effects"

The diagram below is similar to the diagram on the previous page except it suggests the imbalance of surge and torque rotation. The concept of a shifting attractive region is complicated by the new irregularities.



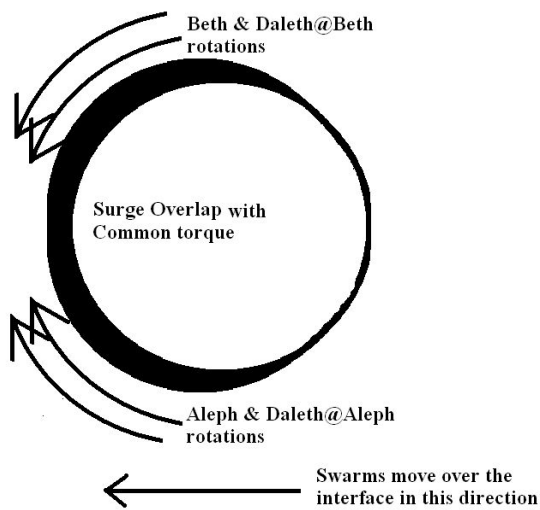
These complexities will be explained below when I speculate about the wakes and fields that accompany these objects but for now I want to concentrate on the shifting attractive region and its

consequences.



The fourth swarm configuration I am focusing on is that of a quartet. (There are many others and some of them will be discussed in the section below entitled “Splash”) This configuration has swarms with common torque on four sides of the 3space interface. It also has equal numbers of Aleph and Beth swarms.

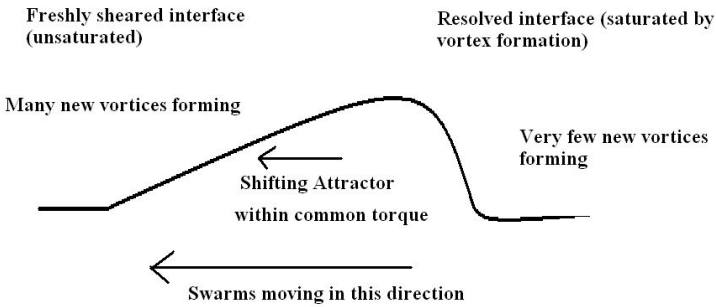
The second diagram (rotated 90°) suggests a pattern similar to the Aleph/Beth duet above but with higher torque. This structure would not influence nor be influenced by imbalanced structures



A swarm Quartet with its common torque at 3space

The mass of a quartet (quasi neutron) would not be one third more than the mass of a trio (quasi proton) because total available shear could not supply sufficient surge torque for this. Available shear is determined by outside forces such as the speed of Daleth’s intrusion and its perpendicular motion against the other fluids. If we set the surge torque of a trio to be very close to but not saturating what is allowed by available shear the addition of a Daleth_A swarm cylinder could not happen or would require that it gave up most of its torque as quasi photonic structures and then shared with the other swarms the maximum

torque allowed by available shear. I am suggesting that quartets follow the second path and the additional surge torque provided by Daleth_A swarms would cause only incremental increases in their quasi mass. This effect would be present regardless of whether quartets were static or in motion. However the motion of quartets over new shear would raise their surge torque uniformly and they would be more stable. When static their maximum use of available shear would cause them to decay if for some reason they slipped over saturation. Therefore half-lives of static quartets would be short. This is covered in more detail in the section entitled “The limitations imposed by available shear”.



A Quartet of Aleph & Beth swarms with common torque, sideways view

This diagram is similar to that of the Aleph/Beth duet but suggests greater torque. Its comments for now are the same.

The combined motion of these structures along unsaturated 3space interface is constantly maintained by the accumulation of higher numbers of vortices that is allowed by motion along the 3space. These vortices then travel within their columns up and down the adjacent 4spaces.

In other words if these swarms were not moving there would be no surges. The steady production of shear in static volumes is limited to the effects of local background shear. But if the systems don't wait for new instability but move onto freshly sheared (unsaturated) volumes they would have access to more vortices. The surges are sustained by this movement onto fresh interface. Once a system acquires the energy for motion, that energy is maintained until it is absorbed and the system decelerates or it is enhanced and the system accelerates.

The feedback loop is always reestablished whenever energy is added to these systems. The swarm moves onto unsaturated interface which maintains this surge which then shifts the swarm onto fresh unsaturated interface which maintains the surge and so on. A more rapid motion maintains higher surges with higher torque. A slower motion maintains lower surges with lower torque.

Another way of looking at this is:

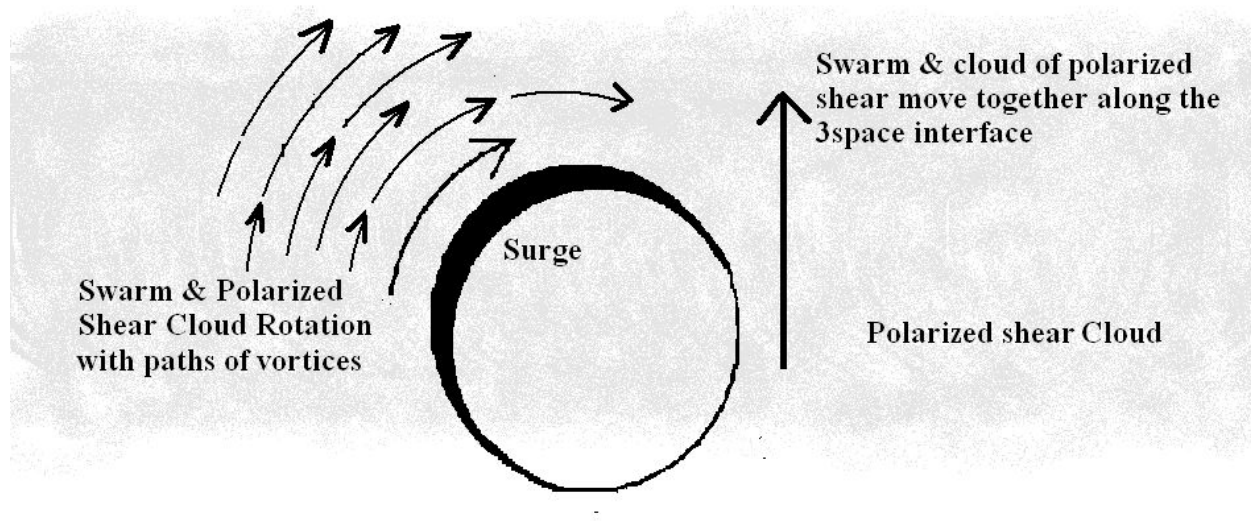
The attracter within the surge is where the torque is greatest. It is the accumulation of the torque contributed by all the vortices present including those further out.

Vortices are more likely to be formed and maintained at 3space where the shear is greater which is out side the swarm. Therefore there is always an imbalance of vortex production and the attractive region will always be moving onto fresh interface. When the swarms are not moving across the 3space interface it is still rotating within its orbital / indentation (see below) and still constantly moving onto fresh shear. The attractive region here is rotating but could acquire sufficient energy to cause it to start shifting the whole rotating system in one direction. That new imbalance would be retained and the system would continue in that direction until it was interfered with.

In spite of these alterations of orbital patterns, the speed of the swarms along the 3space interface should remain constant. Whatever distance and time that becomes devoted to travel in straight lines along the 3space interface should be removed from the distance and time spent in their orbitals. It will be suggested below that the rotation within their orbital creates overall swarm fluctuation that can influence nearby swarms and vice versa. This further suggests that swarms that move together would have resonant orbital frequencies. That is, their frequencies

could be the same or multiples of each other.

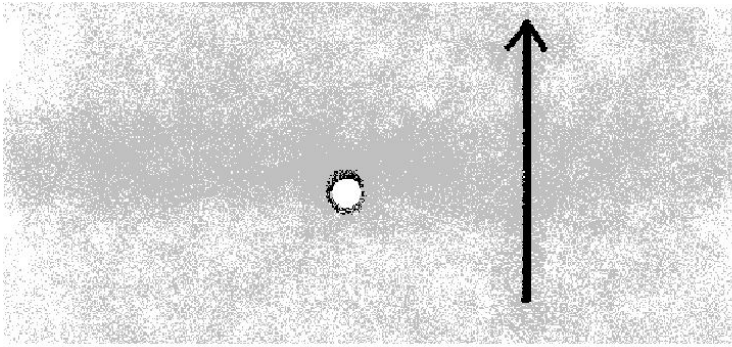
The point of the above discussion and diagrams is to suggest that one aspect of quasi inertial mass is that of the shifting attractive region being maintained by its motion onto unsaturated shear. This feedback mechanism is one foundation of quasi inertial mass. Other factors contributing to quasi inertial mass will include the interaction of Trio_B and Quartet swarms within a common gravitational indentation (see below).



Elephant swarm & its cloud of polarized shear

Another important component of these structures is the nature of their clouds of polarized shear. These clouds are not truly separate from the concentrated shear around the "eye" but at times I need to refer to them as though they are separate. This shifting polarized shear will have all the qualities of the vortices within the swarm's eye. They will follow the same shifting attractive regions as the eye. If there are changes within eye, there will be changes within the clouds. If there are changes within the clouds, there will be changes within the eye. Therefore these clouds contribute substantially to quasi mass because the motion of each vortex within the cloud influences the motion of the vortices around it including those where the "eyes" of the concentrated cylindrical swarms contact 3space. The descriptions above may give the impression that the clouds are passive wakes following the swarms. The expanded concept is that of slow moving waves dragging the eye swarms as much as being dragged by the swarms. Within the quasi universe these clouds and eyes are two aspects of single entities.

Both contribute to its quasi inertial mass.

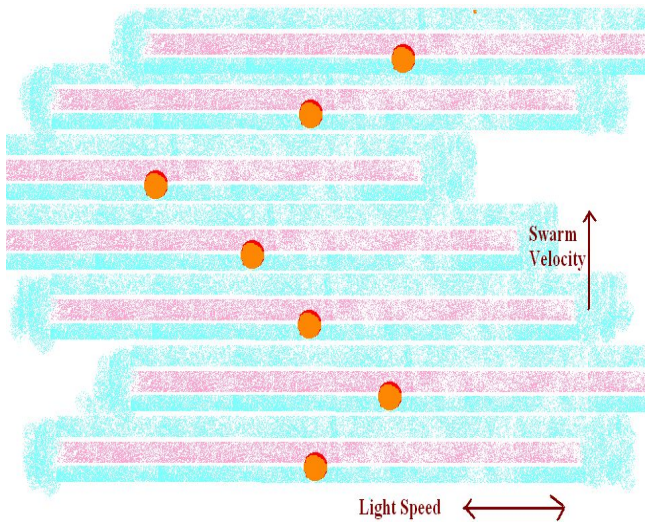


Cloud & Swarm without predominant torque move together

The simplistic diagrams above and on the left show only left and right aspects of a cloud but this cloud also extends into the volumes and hypervolumes, up and down, forward and behind. In addition the diagram above is supposed to suggest that the vortices within these clouds take on the all motion and shapes exhibited within the

central swarm(s) and all the aspects of its (their) orbital spin(s) as described below. The arrows around the eye suggest the paths that the individual shear vortices would follow in response to a predominant torque. This is allowed by the nature of their 5space vortices. The reader is looking at a cross section of the “eye” of the cylinder’s contact with 3space and its associated polarized shear. The second diagram has “neutral” predominant torque and polarized shear. This happens when both Aleph and Beth interfaces are involved. See the “Quartet” diagrams above and “quasi atoms” below

Polarized shear anchors the rotating cylinders to 3space by constantly reestablishing the contact with new shear vortices. It will be suggested below that spin associated with swarm 3space orbitals will cause the clouds to fluctuate allowing for quasi quantum effects.



The diagram on the left suggests some aspects of a polarized shear cloud as it move with a swarm. The width of the cloud would be considerably wider than in the diagram but the shortened version allows the reader to see that from the side the cloud would be seen to oscillate with any sideways motion of the swarm and this could include its spin. But the swarm is still kept immersed within the shifting cloud. This would be true even if the swarm moves above or below the page. The transmission speed the polarized shear to the right and left is quasi light velocity but the forward motion or drift of the cloud is

the swarm’s velocity.

These clouds are extensions of the swarms. One could not differentiate any point at which swarms end and clouds begins. In fact the only region where there would an abrupt change of vortex density would be at the eyes or inner walls of the cylinders. These would be the points at the 3space interface that could be compared to our particles.

All the aspects of swarm surge torque are contained within the polarized swarm clouds. The connectedness between newly created and older vortices by way of this torque should allow cloud portions to persist under certain conditions (see Intro to Quantum effects below) for short

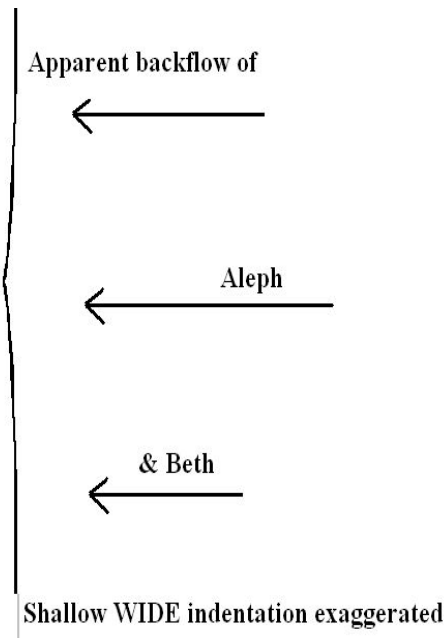
periods even after they are separated from the main cylinder. These separated portions would have the same velocity as that of the swarm before the separation. They would dissipate eventually but would keep the initial forward velocity until dissipation is complete.

The diagram above is a cross section of a cloud-swarm combination at high velocity. Polarized shear clouds should vary in shape according to their velocity from spheres when there is no motion, to increasingly oblate spheres upon acceleration, to pancakes and then to planes at very high velocity. They would also be tilted as a consequence of swarm orbital spin.

Swarm conglomerates should have powerful emergent polarized shear clouds that reflect and control the whole. Recall that these clouds occur at both the Aleph/Daleth and the Beth/Daleth interfaces. And that their intensities are determined by the angle of attack as Daleth intrudes between Aleph and Beth. That is, as Daleth's intrusion contours become more blunted there are greater volumes available for shear and greater torque intensity. The concept here is that all the clouds at these two interfaces occupy the same 3space interface because they also occupy both sides of the two connecting 4space interfaces. So swarm configuration with neutral quasi charge (see below) will still have clouds of polarized shear so they would still experience the quasi quantum effects described below.. Their contrasting components simply occupy different 4space interfaces. These clouds that have equal Aleph and Beth vortex numbers and torque would not interact with swarms that have an imbalance (quasi charge).

These clouds should also contribute to conglomerate swarm's greater inertial masses. However the inertial mass of conglomerates would not simply be a multiple of the masses of their individual swarms for reason explained below under "The limits of available shear". Things have to be more complicated than that.

Quasi gravitation and virtual wells



The partner of quasi inertial mass is quasi gravitational mass. This is in the form of gravitational indentations.

I picture Daleth, Aleph and Beth as very thin layers on this ancient hyper sphere. There could be regions with thick layers but I'm setting this to be a region of layers that are thin in one direction perpendicular to Daleth's expansion. Think in terms of a very thin expanding 5space pancake. The 4space interface between these layers stretches back from the front of advancing 3space interface. This suggests that the tails of any vortices produced by the shear of Daleth against Aleph and Beth will also be pulled back from the advancing 3space interface. This backward pull or drag should impede the Daleth advance wherever the vortices are present but especially when they are highly concentrated.

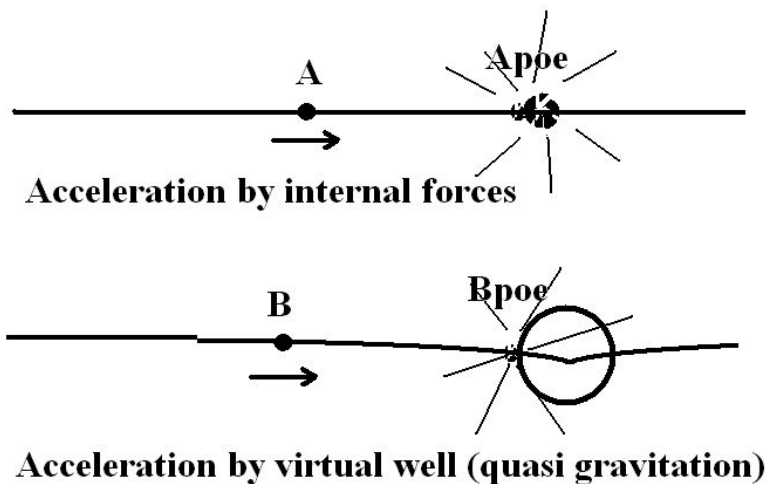
In most regions of 3space, the chaotic and random activity of these vortices would not affect the overall contours of the 3space interface. Here the apparent backward flow of Aleph and Beth which is perpendicular to the 3space interface is uniform. However regions with high densities of organized vortices should experience excessive drag and be indented. The 3space interface contour here should take on vectors progressively more parallel to the direction of Daleth's advance. In these regions, the apparent backward flow of Aleph and Beth is no longer totally perpendicular to 3space therefore vortex conglomerations and background vortices will tend to be swept back and towards the centers of indentations. The speed of Daleth intrusion between Aleph and Beth would allow extremely minor indentations to have excessive effects on swarm accumulation. I call these structures "virtual wells". These virtual wells could generate strong quasi gravitational fields.

All of the diagrams of virtual wells within this document have highly exaggerated indentations so that the reader can visualize their directions..

These indentations could also stretch the 3 and 4space interfaces a little bit so that there are slightly greater volumes and hypervolumes subject to shear. This allows for greater numbers of background vortices which might also contribute to increased drag on the advancing 3 and 4space interfaces.

So the total drag would include that which is produced by the high concentrations of vortices within the swarms, an additional fraction produced by the extension of the interfaces around them. a fraction produced by polarized shear and a fraction contributed by neutral Aleph/Beth duets. These Aleph/Beth pairs could exist without any Daleth swarms associated with them (see Some Imagined Structures above). These pairs would contribute to and shift into virtual wells but would have no other interactions. These additional fractions might increase as the interface becomes more indented.

So, quasi gravity is created by the combined effects of the 3space interface contours and the back flow of Aleph and Beth. Everything caught within this flow would have the same rate of acceleration regardless of its quasi inertial mass.



This quasi gravitational flow could be artificially simulated by accelerating systems along 3space. They would respond to the acceleration by changing their surge torque but once a final velocity was established, the new surge torque would maintain that velocity and no longer simulate the quasi gravitational flow until additional force was applied (quasi inertial mass).

When a system of swarms is pulled into a virtual well it is swept into the stream, and although it is in free fall its surge

torque increases because it is still accelerating along the interface. This is because it is constantly moving onto interface that is progressively less parallel to the parent 3space. It is incrementally becoming parallel to Aleph and Beth backflow so its speed increases. This also takes it over fresh unsaturated shear. The system continues to receive additional energy as its velocity increases. When it has traveled as far into the indentation as it can (for instance it runs into the quasi mass creating the greater quasi gravitational field) it stops and it must release all of that acquired energy because available background shear is not able to maintain the surge torque created by its motion. This is the same effect as that of an accelerating object impacting another object in its path. These points of impact are labeled “Apoc” and “Bpoc” in the diagram above.

If it has acquired enough energy (as surge torque) and its direction is such that it misses the object responsible for the greater gravitational field, its direction will be changed by the apparent new directions of Aleph/Beth flow and it will either orbit within or escape the objects quasi gravitational field. It makes no difference to the swarm group as to whether it has velocity along the 3space interface or it is held in place while Aleph and Beth flow around it. It is still being exposed to freshly sheared interface which maintains its surge torque (quasi inertial mass).

A single swarm or group that is static (not moving along the 3space interface) will be constantly shifting as it sits at the bottom of its virtual well, moving its surge torque to face new directions of the Aleph and Beth inflow. This shifting for any swarm or swarm group would be a constant curved motion caused by the higher torque on one side of these structures.

In other words all single swarms would have one sided surge torque compatible with either the Aleph or Beth inflow only on one of their sides. This would be determined by whether they were created by shear at the Aleph or the Beth interface. This imbalance would make them rotate within their virtual wells. This rotation could be in any direction on the 3space interface because all directions are here are perpendicular to the adjacent 4space interfaces. This allows for swarms to have “down” rotations when compared to others having “up” rotations at the 3space interface regardless as to whether they are both escape up the same 4space interface or at opposite interfaces.

So the expanded picture of swarms is that they have at least two forms of rotation. One I will call “quasi intrinsic” and the other will simply be orbital.

The “quasi intrinsic” will be the general rotation of polarized shear around the eye of the swarm. No single vortex travels very far in this rotation before it escapes up the cylinder. No single object ever transverses the total swarm circumference. It is because of this that the surge torque maintains a single position **within** the total swarm.

Orbital rotations are the many paths (some of which are circular, some of which are indefinite) that the base’s of the cylindrical swarms can follow as they interacts with the 3space interfacial environment. These paths create fluctuating fields of polarized shear and torque around swarms. These fluctuating fields are capable of forming resonances with other fluctuating fields. Orbital rotational paths are how the rest of the world sees swarms.

Groups consisting of three swarms about a single torque pattern I have called “Trios”. These have surge torque compatible with fluid motion on both sides of their rings but the greater torque (surge) on the one side would still cause the swarms to rotate. The speed and frequency these

rotations would be influenced by the internal resonance suggested above. I have called the four swarm groups “Quartets”. They would also rotate similarly because within the system, the placement of the surge torque around their rings would be slightly irregular because of the capricious extra Daleth swarm. These more mobile swarms could be either Daleth_A or Daleth_B. This mobility associated with Daleth swarms suggests some differences in surge quality close in because of its constantly shifting positions but outside the system, this irregularity would be undetectable. (I will not give Quartets a subscript because they would appear to have no predominant Aleph or Beth torque.)

Once a system is put in motion, the strongest torques would tend to align perpendicular with the direction of travel although the unbalance would still cause rotation. That is the swarm groups would not simply travel in the indicated direction but would spiral about an axis tilting in that direction.. The shape of the indentation would also change. This is important because these rotating surge torques determine how these swarms interact with the 3space interface around them. Static swarms have a uniform surge torque all around them because, they move in such complex spiral orbitals such that their 3space presentations are those of spheres. As these swarms are put in motion, they start moving in spirals whose axes are somewhat parallel to the direction of motion in such a way that the spheres become slightly flattened in the direction of motion. Torque in the second case becomes more and more perpendicular to the line of motion as their velocity increases. This motion has been described as though it is on a flat interface but swarm quasi gravitational indentations add another layer of complication.

Therefore these indentations should change as a swarm moves within its well. Wherever the highest torque and its associated vortices happen to be at any single instant is where the indentation would tend to be deepest. I say “tend to be” because changes in the 3space contours might have difficulty in keeping up with the rapid spiraling of the swarm. So the indentation of a static swarm would appear to have a constant depth when viewed from any side within 3space. If the swarm is put into motion the shape of its spiral will tend to flatten perpendicular to the direction of that motion and its gravitational indentation would appear to do the same with a major difference. It is now slightly deeper on the side that opens in the direction of its velocity and it has lost some depth everywhere else. It would appear elongated to a 5space observer, but flatter when viewed from the side by a 3space observer. The 3space observer could not actually see the depth of the well because he can only observe by way of quasi light which is a transverse wave along the 3space interface. He could however see objects made up of swarms change shape. That is, if he used a ruler that was not traveling with these objects. Rulers traveling with them are also made up of swarms. Their shapes would change in exactly the same way. They would not be useful in showing the shape change. These affects will be expanded on later.

Although each group or single ring system has its own indentation and very weak quasi gravitational flow, the most prominent quasi gravitational flows are caused by accumulations of grouped and single ring systems. These accumulations create regions of intense drag on the advancing 3space interface. Small accumulations create weak quasi gravitational flows and have very irregular shapes. Larger accumulations have spherical 3space presentations because of greater quasi gravitational flow. Massive accumulations induce progressively stronger quasi gravitational flows and may even have sufficient quasi mass to create quasi black holes.

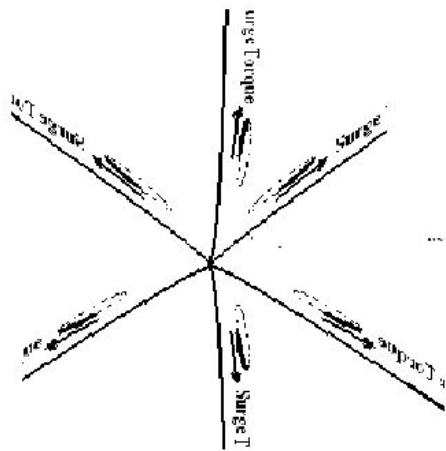
Before continuing, I want to emphasize that these swarms are always influenced by the interplay between the shapes of their virtual wells, the presence or absence of compatible 3space

torque and their accompanying polarized shear. Velocity alters the shapes of the virtual wells but so does 3space torque and surge.

In fact these four phenomena, virtual well shape, spin contour, surge and velocity are interdependent. If you change one, the others will also change.

These phenomena could be isolated mathematically. One could measure each separately. For instance one could quantify quasi gravitation as quasi gravitational mass or velocity as speed and direction or the intensities of quasi charge relative to distance or quasi magnetic field intensity. But each of these is still only one aspect of a complex interdependency.

Introduction to quasi charge

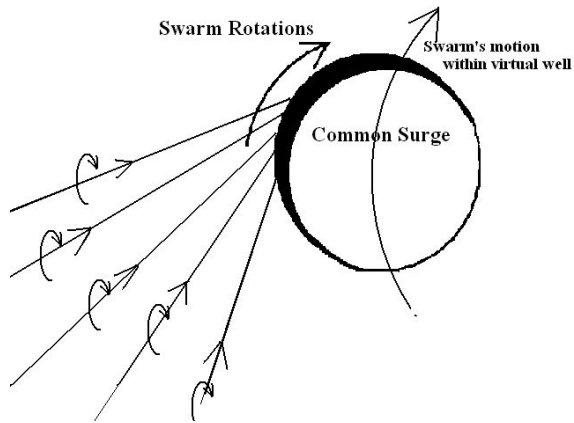


**The inertial mass of the Surge Torque
always moves into the Aleph / Beth Backflow
in every position of a swarms orbital**



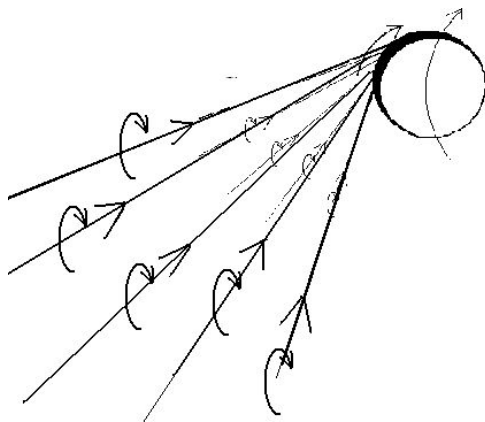
**The inertial mass of the Surge Torque
always moves into the Aleph / Beth Backflow
in every position of a swarms orbital**

The diagrams above are to remind the reader of some aspects of surge torque. The torque is always going to move onto fresh interface and in the case of virtual wells that would be against the backflows of Aleph and Beth. The slight indentation created by the swarm will cause that backflow to be from every place else on the 3space interface towards the center of the virtual well. So the picture now is of swarms rotating rapidly within their virtual wells. This rotation can be in any direction as far as 3space is concerned but the surge torque and its polarized shear should always be slanted toward the edge of the virtual well because it depends on contact with newly sheared interface. If swarms are not traveling along the 3space interface they should spend equal times everywhere within their indentations. This suggests that the broad presentation of their surge torque would be that of waves of polarized shear with the same 3space twist radiating everywhere around them. This twist would be the same for all observers from all sides. That is it could appear to be Aleph or Beth whether viewed from the right or left, from the top or bottom, or from the front or back.

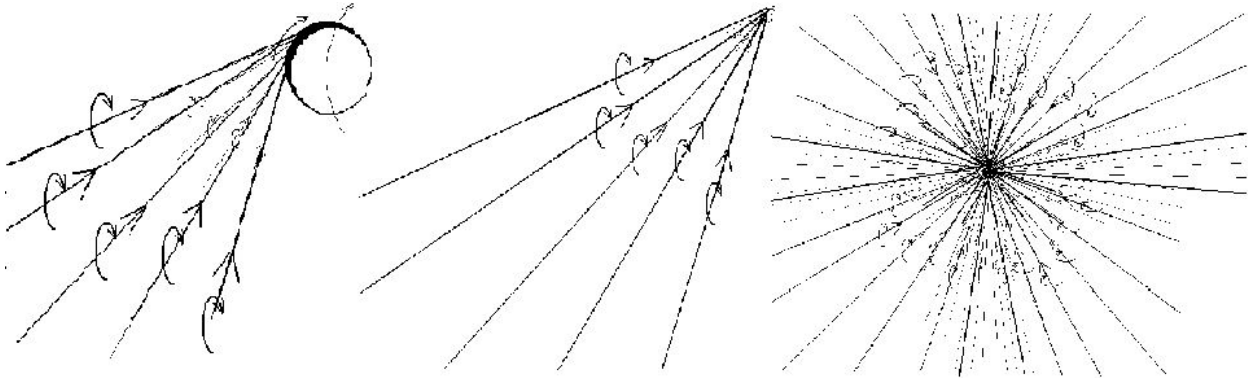


The diagrams on the left and below suggest the motion of the individual Daleth_A polarized shear vortices around the a Daleth_A eye as it orbits within its well. The first is a close up view showing that nearby the vortices within the cloud are closely following the rotation of the concentrated polarized shear.

The diagram below is a composite of the pattern of individual Daleth_A vortices at greater distances from the eye and suggests that the swarms orbital rotation is lost because we are dealing with individual vortices not a proper fluid



Another way to describe this field of torque is to compare it to an erratically spinning



sprinkler with only one nozzle. The sprinkler is spinning but once water has left the nozzle it continues in the direction it had when it exited the nozzle. The analog to the water is the somewhat diffuse beam like field of concentrated torque coming from the surge at the eye wall within the swarm. When it first polarizes more distant shear, the newly created vortices maintain their direction of travel parallel the vortices within eye wall. They then adjust their direction to remain parallel to the eye wall torque even as it changes direction with the surge rotation. This means that they must follow the axis of the surge vortices even as the surge moves away from them. Now they are behind the surge. They will maintain the most recent orientation and direction as the surge moves to the other side of the well because they only have their own torque and the torque of nearby vortices to guide them. So they travel toward the eye wall even though the beam has moved on. Allow the swarm surge to have sufficient angular velocity to point in all directions within a very short time, constantly reinforcing the polarization of shear before the polarization has time to weaken substantially. In this way there is always a residual pattern of torque around the swarm that is the same when viewed from any direction.

If you should bring another swarm with the same predominant torque near the first, the region between them would undergo interference because this is where the torques produced by these swarms would have opposite 3space presentations. The shear between them becomes less polarized and more chaotic. So the shear clouds become unbalanced and tend to move away from each other taking their eye walls with them. Similar torques coming from opposite directions yield opposite 3space presentations.

The swarms rotating within their wells must take on orientations allowed by the totality of their vortices. These vortices will tend to move onto interface with the most compatible torque and shear. This would be onto 3space away from the interference and therefore away from the other swarm. Their reoriented surges change their spin contours, well shapes and velocities.

If you should bring swarms together with opposite predominant torque, that is one with Aleph torque and one with Beth torque, the field between them would undergo reinforcement and its polarized shear intensified because here the opposite torques from opposite directions have the same 3space presentations. The rotations within their wells will take on orientations which accommodate the vortices within the swarms because of these vortices' tendencies to move onto space with the most compatible torque and shear. This compatible polarized shear would be within the region between them and so they would move towards each other. The surge is

accelerated, intensifying the spin contour, deepening well shape and increasing the swarm's velocity.

There is no predominant torque around Quartets or Aleph/Beth duets. So they would not reinforce or interfere with any other type of swarm. Velocities would not change unless they bumped into each other but that is another story.

Let's scale up the situation. It will be suggested below that Daleth_A and Trio_B swarms would be building blocks for much larger objects and that these objects could have equal or disparate fields of torque and polarized shear. How would these interact?

If an object made up equal numbers of Daleth_A solo swarms and Trios_B swarms there is no predominant Aleph or Beth torque present. The object's field has equal numbers of each orientation of torque waves within it. It is uniformly flat torquewise and it doesn't influence any other objects that may have a predominant torque. The shear fields, while still present, are at separate interfaces but have equal but opposite 3space presentations and cancel out each other's torque at distances. There can still be compatible reinforced torque within the object (see "imagined structures" above).

But give this object an excess of, let's say, Daleth_A swarms. The larger gravitational indentation of this object causes all of its swarms to spend substantial time facing the incoming Aleph/Beth flow that is they are facing away from the object's center of gravity. Its 3space presentation will reflect this. The distribution of those excess Daleth_A swarms will adjust to this by aligning their torque to accommodate the situation, that is, to face the flow in all directions. If they are freely moving they will tend to become distributed evenly on the perimeter. They really are all oriented in the same direction but in this case the direction is "out" when viewed at 3space. They have all taken on vectors that are somewhat in the direction Daleth's advance which is perpendicular to the 3space interface. So the larger picture is that they really are traveling in the same direction.

Now the 3space presentation of the object is that of Aleph torque when observed from any angle. All the Daleth_A swarms are facing outward. If another of these Daleth_A predominant objects approaches the first, the region between them becomes filled with Daleth_A torque waves and shear. These waves have opposite 3space presentations because between the objects they have opposing directions of propagation. These torque waves interfere with each other. This region has equal numbers of torsion waves of each 3space presentation and does not provide the torque contour that encourages the Daleth_A vortices to continue in this direction. Those waves of polarized shear, that can, will continue in their original directions, bending around the second object to the other side of each (like a tsunami circumvents an island). Here the 3space presentation of each is compatible because these waves are traveling in the same direction so here the waves reinforce one another. The 3space between them contains destructive interference. The regions away from the direction of approach are reinforced. The Daleth_A swarms of each will tend to move towards those areas of the 3space interface that have the greater Daleth_A torque and shear compatible with their own 3space presentation. Thus the closer these objects are to each other the greater the number of freely moving Daleth_A swarms that shift onto the side opposite of that approach. These swarms are no longer simply sitting around the edge of the object's gravitational well. They are flowing into regions with the highest compatible shear and

in the process pulling the two objects away from each other. All of their surges have been reoriented, changing their spin contours, the shape of the overall gravitational indentation and the overall velocity.

Now imagine an object with a depletion of Daleth_A swarms approaching the one with an excess. The 3space presentation of one object is that of Beth torque when viewed from any angle. The other has Aleph torque when viewed from any angle. As the object with predominately Beth torque approaches the object with predominant Aleph torque, the region between them becomes filled with compatible torque and intensified polarized shear. The 3space presentation of the shear waves from the approaching Beth object has the same twist as that from the Aleph object approaching from the other direction. Now it is the region between them that has the reinforced polarized shear and it is the 3space behind them that has the interference. Swarms for each adjust accordingly pulling the objects with them toward each other. The already intense torque field intensifies more and reorients their surges which changes their spin contours, deepens their gravitation indentations on that side and increases their velocities towards each other.

If we allowed these objects to touch they could arrange themselves into patterns in which each Aleph dominant swarm was next to one or more Beth dominant swarms and vice versa. The 3space torque between them would be reinforced by each of their 3space presentations. It would require a lot of energy to overpower this torque. The swarms would most likely arrange themselves into lattice formations whose structure would be determined by how their regions of quasi gravitational overlap were filled. (See **Intro to Quasi Quantum effects** below)

This would be quasi electrostatic bonding

Set up a situation in which there are many small free moving objects each with predominantly Beth torque, similar to a “plasma”, in our universe. Place them between two large objects, one generating predominantly Aleph torsion waves and the other generating predominantly Beth torsion waves. The region between the two larger objects would have a reinforced field compatible with motion towards the Aleph object by the Beth plasma. Moreover since the Beth swarms are moving in the same direction they would tend to coalesce into streams because they are all moving in the same direction. Each swarm enhances the torque around it and becomes a region of higher torque so they all move into each other’s wakes. If you could see the motion of this quasi plasma, you would observe streams of swarms.

As suggested above it appears that nothing is attracted or repelled within the quasi universe. Everything seems to simply follow the contours of the 3space interface. These contours would be in the form of torque around the 3space interface and as quasi gravitational indentations. It may be that the only true forces in the quasi universe are Daleth’s advance between the Aleph and Beth layers and the rotation of the parent 5space hypersphere. This advance causes the persistent backflow of Aleph and Beth across the 3space interface and the rotation creates the species of vortices with opposite rotation on Aleph and Beth sides of the original 4space interface.

However the Newtonian relationship $F=ma$ could still apply if we define quasi mass as some value dependant on the volume of vortices within the surge torque and force as additional torque with its attendant shear vortices that accelerates the quasi mass. Torque could also increase or decrease the volume of vortices within the surge torque (in deceleration). Therefore mass could change with variations of energy in proportions similar to that found in our universe.

John Wheeler said "matter tells Spacetime how to curve, and Spacetime tells matter how

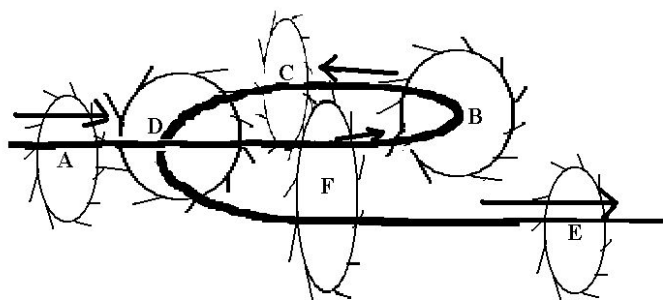
to move." in reference to gravity. However if one considers that torque and drag may both contribute to the contour of the 3space interface (and therefore to Spacetime) then it should be considered that this concept may also be applied to quasi charge (see above), quasi magnetism and quasi quantum effects (see below).

I will discuss below the shape of Daleth_A orbitals and their orientation to each other in this scenario under "Intro to Quasi Quantum Effects" below.

Quasi Magnetic Fields

Having setup the concepts regarding swarms I want to reemphasize the effects of the turbulent background. When there are no strong patterns of torque present, there are still enormous numbers of very transitory, random vortices being produced on all sides of the 3 and 4space sheared interfaces. In this situation the overall torque produced by these vortices has no particular orientation. But whenever a swarm with predominant torque (either Aleph or Beth) is present at the 3space interface, that torque influences the orientation these transitory vortices as they are formed. For example take a Beth dominant swarm. Transitory Beth vortices on either side of the Beth 3 and 4space interfaces will move in the same directions as the surge vortices. Aleph transitory vortices will move in the opposite direction. These new vortices, while not actually moving with the swarm, would contribute to and maintain the overall torque pattern in the extended volume.

The shear at 3 and 4space interfaces take on the polarization of the vortices in the swarm's predominant surge. I have described this as a field. This is an important speculation because it would provide a way for waves of torque to be maintained as they traveled along the 3space interface even if the direction of the swarms of origin were to change or stop completely. If this were so, waves of torque could also be viewed as waves of polarized shear. These waves could be as long and as broad as our radio waves or as tight and compact as our photons.



At point "A" the 3space twist is clock wise. The twist rotates as the Daleth@Aleph swarms move through points "B", "C", "D" and "E". At region "F" there are two swarm streams moving in the same direction so 3space is twisted the same for both

Another effect of these surges and their associated torque can best be described by examining swarms in motion. I will go into why these swarms are in motion later but lets set up a situation where there are many single Daleth_A swarms moving in the same direction along a strand or wire of quasi matter. All of their surges are in the same direction therefore all their torques are also aligned. The sum of their torques creates overall twists in the surrounding 3space interface which influence the motion of any other nearby swarms that also have

predominant torques. If their motions and their 3space presentations **are the same** as the strand swarms these outside swarms will move closer and in the same direction. In fact they will accelerate as they move closer to the volume with greater torque nearest the strand. Remember that every little bit of the 3space interface has this twist. The 5space fluids that meet at that little bit of 3space interface are shifted around it to varying degrees creating torque. The ovals around the wire in the diagram represent a uniform intensity of torque around wire. The angled line attached to it represents torque direction at that point of the 3space interface. The maximum torque occurs in the little bits of 3space nearest where the original stream of Daleth_A swarms are flowing. The 3space interface becomes more and more twisted for any free Daleth_A swarms that

approach the strand of quasi matter. If they are traveling in the same direction they would accelerate. If they were traveling in the opposite direction from those on the strand they would move away and alter their direction.

I classify torque as either Aleph or Beth. Above I suggested that the swarms above the Aleph/Beth interface have torque opposite that of the swarms below this interface. So not only does each species of Daleth swarms have its characteristic torque but any trio made up of three swarms, that is an Aleph swarm, Beth swarm and either a Daleth_A or Daleth_B will also have a torque that reflects the numbers of swarms present from either side of the Aleph/Beth interface. Thus a trio made up of Aleph, Beth and Daleth_A swarms will have Aleph torque. A trio made up of Aleph, Beth and Daleth_B swarms will have Beth torque.

Now back to the previous paragraph. All of the swarms moving along the wire described in this paragraph have Aleph torque. If some freely moving unbound swarms in the region around the wire had Beth torque, while traveling in the same direction, these swarms would move away from the strand. When traveling in the opposite direction they would move towards the strand. Freely moving Aleph swarms would move closer while traveling in the same direction and away if traveling in the opposite direction.

Swarms follow the same rules regarding contours of the 3space interface as the individual vortices within them.

Stop the motion of the strand swarms. They are now moving in a chaotic fashion rather than in one direction. There is decreasing aligned torque. As the interface readjusts it affects swarms nearby. For them, the interface is unwinding and so they reverse direction.

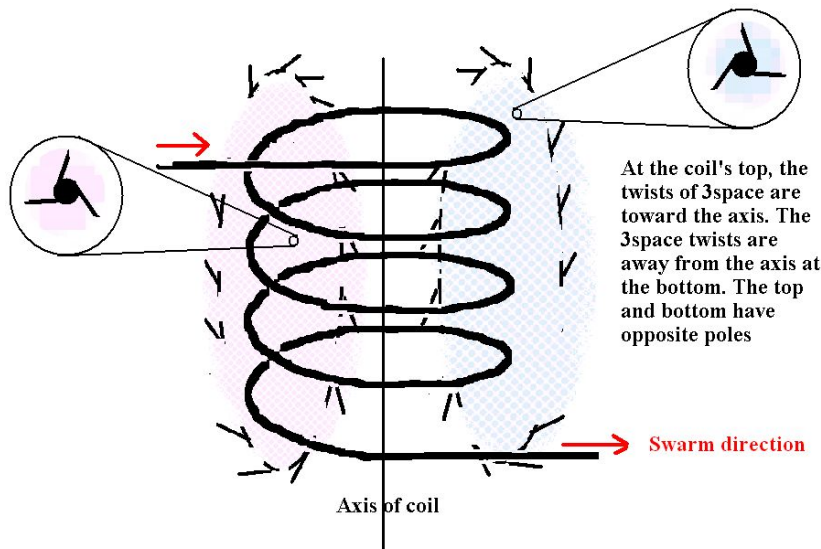
Force the swarms in the strand to move opposite the original direction. Peripheral swarms that had reversed direction in response to the initial unwinding now move closer in response to the total reversal of torque. Those that had not yet reversed their original direction yet, do so now.

These peripheral swarms also interact with each other. They produce their own torque. As they adjust to the torque emanating from the strand they also take positions aligning with each other. These would appear as concentrations or lines of torque around the strand. And they really are lines of increased torque but it is the additional torque generated by the freely moving swarms themselves, not simply torque from the wire. This would most easily be seen when the peripheral swarms were attached to some larger entity such as an analog to iron filings in our universe or in patterns of quasi plasma as seen in quasi stars.

A point should be made here regarding quasi magnetic “lines of force”. They would be a useful device for mathematical evaluation but within the quasi universe they have properties similar to isobars in barometric values or the contour lines delineating altitude on a topographical map. The measurement should be the same for either concept. If one allows that adjacent “lines of force” represent a change in torque intensity of some arbitrary value, a small change of intensity within a range of distance could be represented by a few “lines of force”. A large change of intensity within the same range would be expressed as many “lines of force”. This would be analogous to very few contour lines in a distance of gradual incline on a topographical map or many closely spaced line delineating a steep incline with in the same distance on the same map.

A second point should be made regarding the directionality of the quasi magnetic field relative to the motion of the Daleth_A swarms. Within the quasi universe it is caused by the

contour of the torque around the moving Daleth_A swarms. In our universe it is attributed to the flow (flux) of the magnetic field relative to the motion of electrons. It is suggested below that many effects for each should be similar.



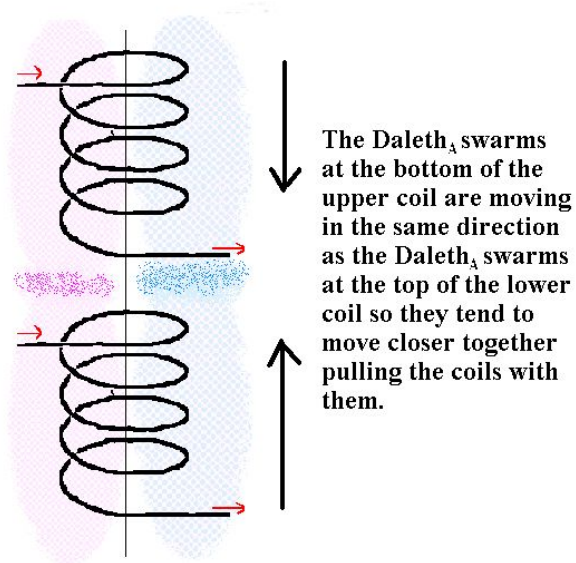
Now create a coil out of the wire and set the Daleth_A swarms in motion. They are moving parallel to each other and their torque is cumulative. The space around them is more highly polarized. The emergent pattern of torque is a fat cylinder, whose torque is always perpendicular to the direction of the swarms with their Aleph twist. The stylized magnifications emphasize that that every little bit of the 3space interface has the

indicated torque, The Daleth_A swarms moving away from the viewer have a clockwise 3space presentation. Those that are moving towards the viewer have a counterclockwise presentation.. They all have Aleph torque but their motion along the 3space interface alters their 3space presentations.

The region within the coil should have a region of interference if there is no conductive or quasi magnetic material present. However the presence of a core (see below) that contains Daleth_A swarms that could imitate the circular pattern of the Daleth_A swarms in the coil should somewhat neutralize this interference and actually enhance the torque pattern generated by the coil. (I say "somewhat neutralize" the interference because if the current is high enough the interference could overpower the structure and cause it to fly apart.)

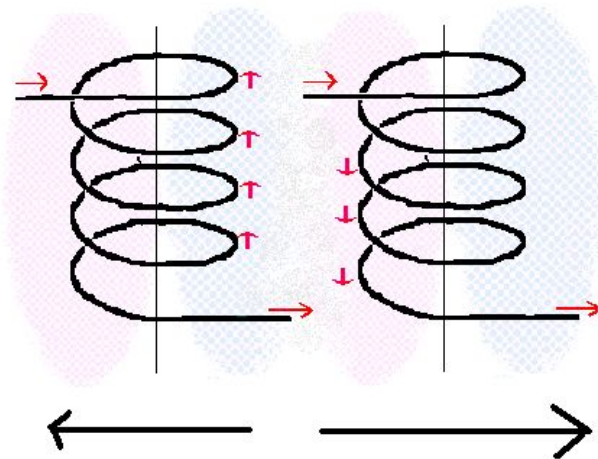
This also raises the possibility that if one creates a toroidal structure of quasi magnet material in which a portion of it is passes through a coil, the pattern of circular motion would be induced to spread throughout the torus. This would result in a continuous field of torque within and out side the torus. Wire that runs perpendicular to the wires that make the coil would not register a quasi magnetic field. A wire running through the torus (parallel to the coil wires) would show a field. A second coil around the other side of the torus would also respond to the field. This could be the basis for a quasi transformer (see below).

Thus if we place an analog to an iron bar in the center of coil above, the pattern of torque should be enhanced.



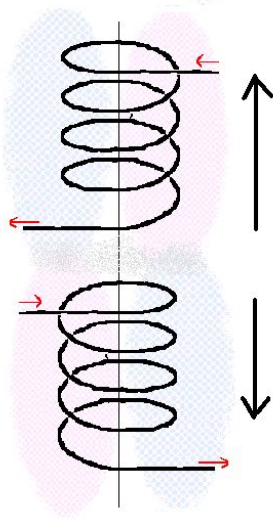
Make a second coil as above. All coils have a bar of quasi iron in their center. It is left out of the illustrations for clarity. When they are brought together end to end with their Aleph torques aligned and both sets of swarms are traveling around their cores, let's say clockwise, they tend to move towards each other because the swarms of the same species moving in the same direction tend to move toward each other. The torque pattern of the right side of each coil is clockwise and on the left it is counterclockwise. All of the swarms are traveling away from the viewer on the right side and towards the viewer on the left. The more intense colors between the coils suggest that the torque between them is reinforced. The

swarms tend to move toward regions of higher compatible torque.



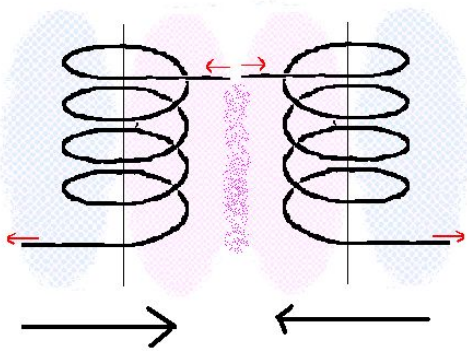
The Daleth_A swarms on the right side of the first coil are moving in an opposite direction of the Daleth_A swarms on the left side of the second coil so they tend to move apart dragging the coils with them.

Move the second coil to the side of the first. They tend to move away from each other because the swarm sets on the adjacent sides are moving opposite each other. The torque on one of the adjacent sides is counterclockwise, the other is clockwise. The muted colors between them are to suggest a region of interference or interface relatively free of torque. The swarms will move into those regions that have higher compatible torque which in this case is away from each other.



Create a new set of coils each of which has Daleth_A swarms traveling along their wires in directions opposite the other. If they are brought together, end to end, their Aleph torques are in opposite orientation, they will tend to move away from each other because the sets of swarms are now traveling in opposite direction.

The torque between them experiences interference. Each coil has greater compatible torque in all of the other regions except the one where they nearly touch. Their Daleth_A swarms drag them away from each other..



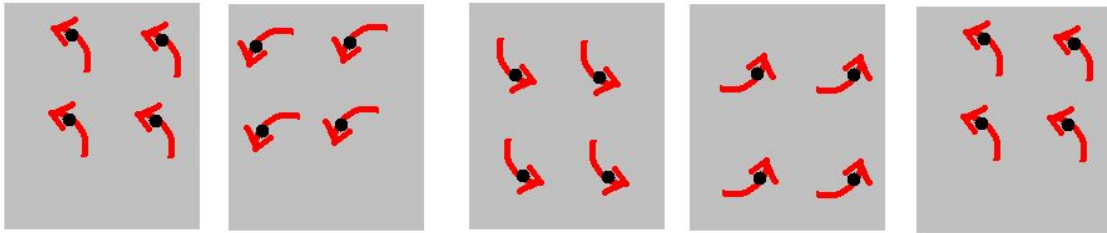
If these new coils are brought together side by side they will tend to move toward each other because now the swarm sets on adjacent sides are moving in the same direction. Swarms (and swarm sets) of the same species or torque tend to move away from each other when traveling in opposite directions and towards each other when traveling in the same direction.

One should also be able to apply the above concepts to permanent quasi magnets made out of material in which the circular motion of Daleth_A swarms is maintained after it is once established.

A reminder is appropriate here regarding the polarization of the 3space shear around all of this activity. Above, I envisioned that shear is creating new random vortices everywhere, not just within the swarms and that these new vortices should tend to align with the torque that is already present and in that way maintain it. That is they will have the intensity and orientation of the

torque that is present wherever they are created. Those created further away from the primary activity will form and maintain weaker torque but they will still have the same orientation. Those nearby will form and maintain stronger torque. This effect would be important in the long distance transmission of reversing quasi magnetic fields. In this case the large scale polarization of 3space should maintain these traveling waves. This large scale polarization could be similar to our radio waves.

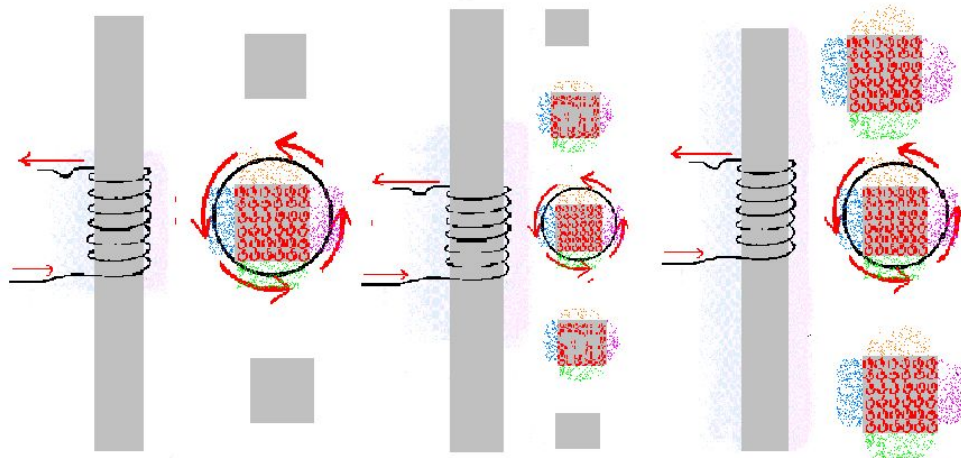
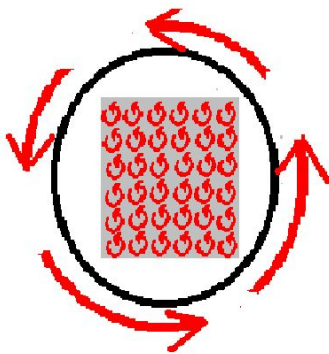
Quasi magnetic nodes and induction



Swarms within the nodes move in the same direction while in phase

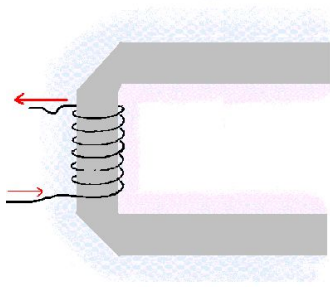
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Quasi magnetic materials could contain unpaired Daleth_A swarms in configurations that allow resonance between their internal structures. I will call these internal structures nodes. When these nodes are subjected to torque generated by coils around the quasi magnetic material their Daleth_A swarms adjust to this torque by traveling circles parallel to the motion of the swarms within the coils. The resonance should allow them to move together in these circles as long as they are in phase. In this case there is no change in intensity of torque, just a shifting of torque within the cloud swarm and the composite cloud common to all the swarms, a fluctuation that might be apparent only locally. Thus there is no concentration of energy to trigger the “Plank effect”. The diagram on the left is a cross section of an active coil and its core. It suggests how the swarms in the core could behave in response to the swarms in the coil. They travel in the same direction.

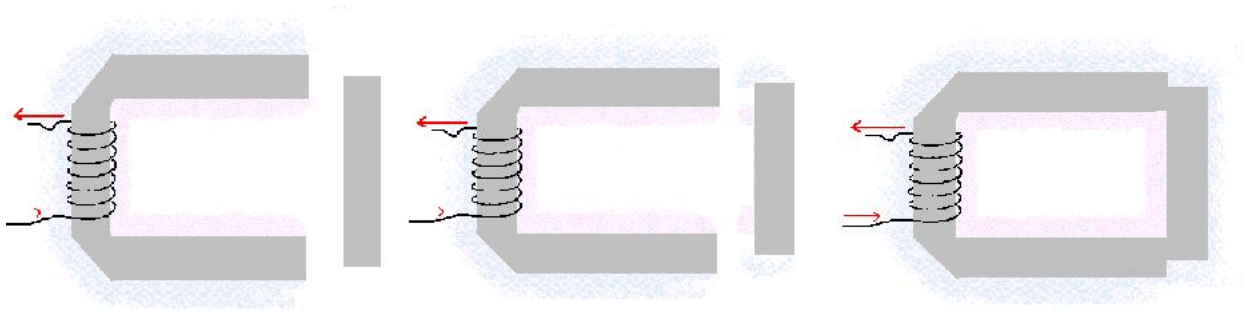


Potentially resonant nodes might also respond to the torque produced by other nodes. The diagram above suggests that nodes above and below the coils could respond to the torque produced by the nodes nearest the coil. These newly activated nodes would transfer the pattern of torque to nodes in adjacent regions of the bar. The colored fields suggest the shifts in the

orientation of 4space torque as we move around the bar (blue to green to pink to orange and back to blue). This torque is always perpendicular to the direction of the swarm motion. If we used a concept similar to the right hand rule in our universe and the thumb designated swarm direction then the connecting 4space around every little bit 3space would be twisted in the direction of the fingers to some degree depending on its distance from the current.

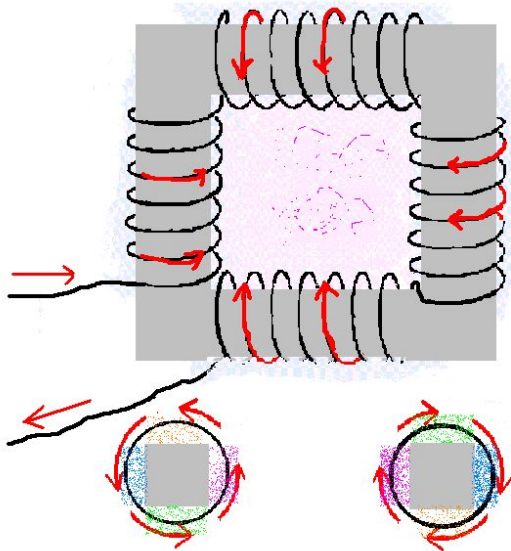


This should happen even if the bar is curved. This allows the pattern of torque created by the coil to be extended to those regions of the bar where there is no coil. Note: The pink clouds in the diagram above and from here on represent torque generated by Daleth_A swarms in a coil moving away from the viewer. The blue clouds represent torque around swarms traveling towards the viewer.



When another bar of quasi magnetic material is brought close the curved bar its nodes also align with the torque present. The Daleth_A swarms within its nodes are now traveling in the same pattern and direction as the swarms in the curved bar. Daleth_A swarms moving in the same

direction also move towards each other so these newly activated nodal swarms drag the free bar over to the curved one until together they form a rectangular torus. These are the same concepts as those covered regarding the quasi magnets above



The torque pattern around this torus is the same as that which would be present if the windings continued all the way around as in the diagram on the left. The red arrows indicate the direction of the current. The pictures at the bottom are cross sections of the right and left legs.. The colored clouds represent 4space torque that is perpendicular to the current

To summarize: Nodes created in the region of a coil tend to generate new nodes on both ends, and side by side, to form a continuous quasi magnet. All adjacent nodes have similar orientation. This orientation will gradually change

to adjust to the geometry of the bar. For instance, if the magnet is curved, the nodes will follow the curvature of the magnet from one end of bar to the other or if possible all around a torus.

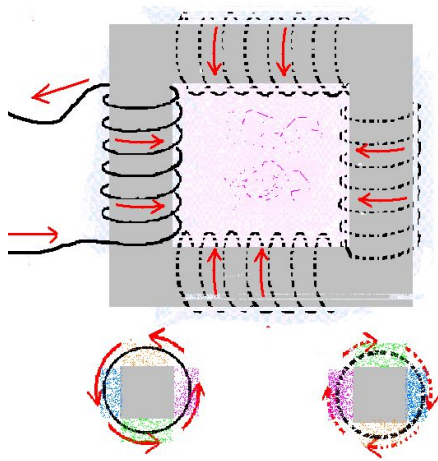
What would happen if we turned off the current? As swarms slow down to a stop, they generate less and less torque. As the 4space unwinds, the regions farthest away reach a state of zero torque first, then each region closer in, one after the other, loses torque until finally there is no torque around the coil. The field appears to collapse.

We could measure the curved planes of uniform intensity of quasi magnetic field around the coil and give them values. Give a region fairly far from the coil a value of one. This means that everywhere at this distance from the coil the quasi magnetic field has an intensity of one. Closer to the coil we would find a plane whose intensity was twice that of the first and closer still regions that are three, four, five , etc times the intensity of the outermost plane. When the current is turned off 4space unwinds, that is returns to zero torque, uniformly. This means that the curved planes of uniform quasi magnetic field must shift as torque decreases. Each region of uniform quasi magnetic field moves closer to the coil as overall torque goes down. Eventually there is only a region of zero torque. It appears that the regions of uniform quasi magnetic field (planes of force) have collapsed. Cross sections of these planes would be lines so we could also say that the lines of force have collapsed

Turn the current back on and we see this activity in reverse. The planes of uniform torque or quasi magnetic field intensity expand with the overall field as the Daleth_A swarms pickup speed.

If the current is reversed there would be a new expanding field in which the torque has opposite twist reflecting the new direction of Daleth_A swarms. So now we have the possibility of alternating expanding and shrinking fields with opposite rotations of torque. Earlier I suggested that unbound or loosely bound Daleth_A swarms approaching a field of torque will move in a direction perpendicular to that torque because for them 3space is winding or rather the connecting 4space is twisting around 3space. It doesn't have to shift much to have this effect. In

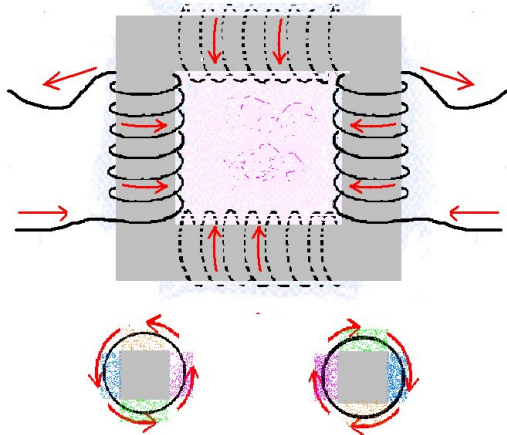
the above situation 3space is actively twisting, untwisting, and then continuing to twist in the opposite direction before it untwists again.



reversals.

This alternating quasi magnetic field should also cause any unbound or loosely bound DalethA swarms nearby to cycle back and forth with the alternating torque. First let's look at the torque pattern with a coil only on one side. The diagram on the left is a rectangular torus with a coil around its left segment. When the current is on the other segment create a torque pattern identical to the pattern seen in the diagram above so I have placed reference or "ghost" windings and arrows to indicate the current direction that could be generated by that torque (Dotted lines).

This diagram represents only one phase of an alternating cycle. During the second phase all arrow directions and torque would reverse. There would be shrinking and expansion of the torque field between

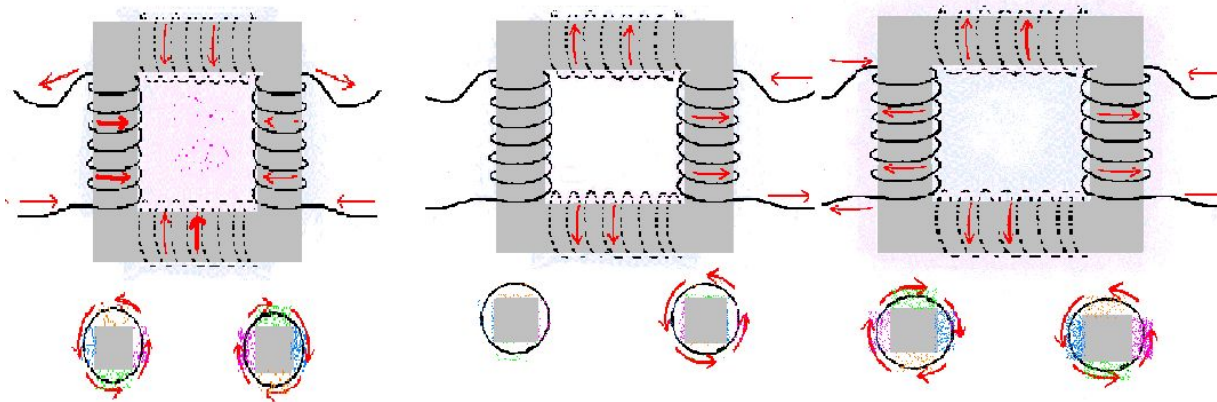


High volumes of water passing beneath it raise it and keep it at that height. When the water level lowers, the height of the buoy falls. It will also rise and fall with waves. Changes in torque intensity would cause DalethA swarms to shift along the wire but once it is established they would become anchored to new bonds. They are restricted by these bonds and the other

This diagram has a separate unpowered coil on the right leg. DalethA swarms move in the indicated direction in this coil when current begins to flow in the right coil. They experience this increasing torque as winding 4space and they move accordingly. But only while the field of torque is increasing, that is until the torque achieves its maximum expansion. Once this happens internal resistance prevents further motion. If there were no resistance they could continue. I suggest that it might work like this.. Bonding (see below) within the coil would keep them in place. This shift of the swarms in the unpowered leg with changes of torque intensity is like a anchored buoy floating on

randomly moving swarms around them. If there was no “resistance”, they would accelerate with the torque increase and continue in that direction until they were interfered with. But since they are anchored there would be no further motion unless torque increases or falls. If torque intensity falls they would shift in the other direction until a new intensity is established and then become re anchored. If the power is turned off the field of torque would shrink. The swarms in the left leg would experience this as an unwinding of 4space around 3space and move in the opposite direction. If the current reverses, the field of torque expands again but with opposite orientation. If space unwinds from one direction and then continues to wind up in the new, the right leg swarms would experience this as continuous application of torque and continue to travel in the direction they were traveling when the field first collapsed. But only until the new maximum torque is reached. Internal resistance prevents further motion until the next phase of this alternating cycle when everything is repeated.

The arrows represent current and potential current direction one powered phase of the cycle. The diagram below reflects the direction change of current in the right leg as the field collapses when the power falls and the current reverses



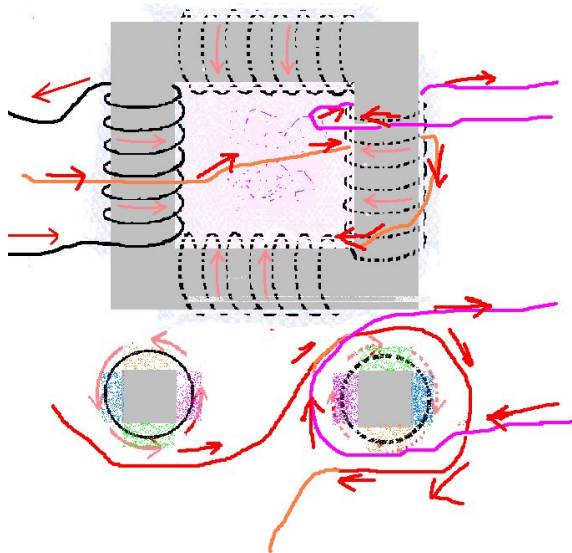
Notice how all the red arrows change direction when current falls and they continue in that direction if it is then reversed. The blue cloud is in the center now because that is torque generated by swarms moving towards us, the pink is the result of swarms moving away. The cross sections at the bottom also show torque directions in the front and back. Daleth_A swarms that are moving right to left generate torque (yellow cloud) that is opposite the orientation of the torque generated by swarms moving from left to right (green cloud). The right leg cross sections for the center diagram represent decreasing torque. That is why the arrows appear to go against the rule. The torque still has its original orientation, but because it is rapidly decreasing the right leg swarms have reversed direction because for them the torque is unwinding.

The rules regarding relative voltages should also apply because more windings on the right leg should expose those winding to a greater volume of torque. These new windings are in a series configuration so their voltage should be higher. Fewer windings on the right leg should

yield a lower voltage.

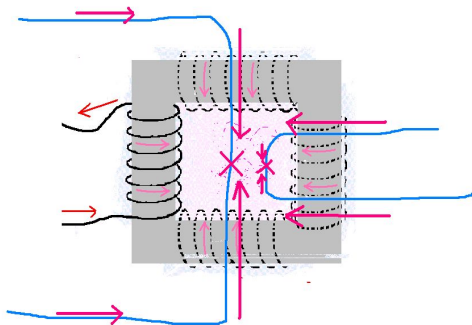
In our universe toroidal electro magnets have all their lines of force concentrated within the magnet. There is very little out side the torus. What little there is, is referred to as “leakage”

In the quasi universe the windings generate considerable torque outside the wound magnet and also around those portions of the magnet that are unwound but the effects on conductive material are similar to those found in our universe because conductive wires must follow the same pathways as the currents within the windings and within the magnetic nodes to display current.



The diagram on the left illustrates two wires that would have some current in them if the coil on the left had an alternating current. This is a powered phase of the current. The orange and pink wires are unpowered but they should have some current in them because they pretty much follow the winding’s directions and therefore the torque contours. When the orange wire passes over the coil on the left its current can move to the right as does the current in the coil. When it passes through the center its current can move away from us as does the current in the coil and the reference winding. When it moves behind the left leg the current can continue on its path from left to right with out interruption and eventually form a completed circuit. When the pink wire

comes in from the left, its current direction agrees with the reference winding. As it goes through the center and around the back of the torus it remains parallel to the reference winding and its current can flow unimpeded.



In the diagram on the left each of the blue wires has close contact with the torus but neither completely follows the path of a winding as it enters and leaves the field. Therefore neither will be induced to have a current The blue wire on the left crosses the upper leg wherein the torque tries induce a current that would travel down, but the current is blocked because the wire also crosses the lower leg which is trying to induce a current to travel up The blue wire on the right crosses the right leg of the torus which is trying to

induce a current traveling left but it is blocked because the wire re crosses the right leg of the torus where it is still in a field that is trying to induce a leftward current while wire is traveling right.

In our universe the wires would not have current because all of the lines of force are within the torus. In the quasi universe there is plenty of current inducing torque outside the torus but the wires must follow the contours of torque to exhibit current.

More could be said of quasi magnetic fields but my intent is only to provide suggestions as to how one might consider these fields within the quasi universal paradigm.

Intro to Quasi Quantum effects

There are several notions that I need to consider when I make the rules regarding quasi quantum effects.

1. The close in effects of the waves of torque that are spiraling away from swarms as they orbit within quasi gravitational indentations.
2. The effects when swarms are sharing or nearly sharing the same gravitational indentation.
3. The stacking patterns that might result from effects 1 and 2.
4. A semi Pachinko effect
5. Not so spooky action at a distance

In the description of quasi charge I mentioned that the nearby 3space around swarms is full of fluctuations created by swarm orbital motion. These fluctuation are not caused by the addition or removal of vortices within the swarm simply a shifting of available torque. Here there is no loss or gain of the systems energy but they do allow what we would see as quantum effects.

I envision the 3space indentations caused by the swarms as of two types. One is that of very shallow wide indentations associated with single ring presentations such as Daleth_A. The others are progressively deeper indentations associate with Trios, and Quartets. These indentations are still shallow and wide, just not quite as shallow as Daleth indentations. The one size fits all approach isn't going to work. Single Daleth_A or _B swarms have relatively few vortices when compared with the numbers within Trios or Quartets. The difference is even greater when compared with those that makeup the conglomerates discussed below. It is the vortices after all, that create the drag on advancing Daleth. So it stands to reason that those configurations that have greater quasi mass will also have deeper indentations.

. The deviations of these indentations face every where along the 3space interface at once because they deviate in a direction perpendicular to 3space. When they are in motion, their deviations tend to tilt toward the direction of motion.

The deeper indentations create an interesting situation for everything nearby along their interfaces. All sides of these "virtual wells" are highly influenced by the backflows of Aleph and Beth. This means that the surge torques of all swarms on one side within an indentation must be oriented in the same way to compensate for this consistent flow. They must all travel in the same direction, that is against the backflow. They may spin clockwise or counterclockwise when

viewed within 3space but the axes of their spirals must point in the same direction when viewed from 5space. And because all vortices within the wells are forced to travel in the same direction against the backflow, they will follow only the rules that apply to vortices moving in the same direction. I will call the demarcation zone between the edge of the indentation where backflow begins to dominate and the flat 3space interface where backflow is totally perpendicular, the “selective horizon”

Outside the selective horizon swarms will follow all of the general rules regarding those with opposite and similar 3space presentation.

Below the selective horizon swarms will follow only those rules that apply when they are moving in the same direction.

This selective horizon creates a region of stable equilibrium

Specifically:

1. Vortices with the same 3space presentation will move closer together. Their swarms (Trios and Quartets) will tend to become attached in a side by side configuration as much as the horizontal space within the indentation allows. When these swarms form this configuration, they would release energy (see quasi strong below) Swarms that are captured without forming attachments (that are stacked vertically within the well) will not lose energy. This will result in some reaction being exothermic and others being endothermic. These swarms will also require substantial energy to escape. In fact distortion of the indentation would be the most likely method for Trios and Quartets to escape. These effects will be covered in more detail in the sections regarding quasi strong, quasi weak and “Splash” below.

2. Vortices with opposite 3space presentation will move away. Their swarms will tend to be ejected.

I will concentrate on these effects as they apply to Daleth_A swarms at this point in the paradigm. Any Daleth_A swarm entering a Trio_B indentation will be in a flow that forces it to travel in the same direction as that of the Trio_B. This would be the direction expressed by the outgoing waves of Trio_B's polarized shear. The Daleth_A and Trio_B swarms have opposite 3space presentations and therefore the Daleth_A swarm is ejected but the pattern does not end here.

Daleth_A swarms approaching Beth dominant Trios from outside these selective horizons will follow the constructive interference until it reaches below the selective horizon because their 3space presentations and directions while outside the well are opposite that of the Trio_B swarms within. Both swarm types here were moving in opposite directions. In this region their torque has constructive interference. But once the Daleth_A swarms go over the selective horizon, they are in the same Aleph/Beth backflow as that of the Trio_B's and their surge torques must shift accordingly. Now, swarms with opposite interface presentations are traveling in the same direction against the backflow. There is destructive interference between them. The Daleth_A swarms tend to move back onto the interface with the most compatible torque which is outside the selective horizon. Once there, they can easily reorient themselves and again assume a direction that is opposite that of the Daleth_B trios. So the pattern is; outside the selective horizon they move towards the Trios_B, once inside the selective horizon they move away, outside, toward, inside away, etc, etc. If there were no other factors to consider they would simply bounce around the edge of the well in purely random fashion and while this is part of the story but there are other factors to consider.

Both swarm sets are rotating within their respective indentations, so the torque patterns they impose onto the sheared background is that of polarized waves moving outward. One way to visualize their wave fronts is see them as developing expanding layers (each layer is a wave) from the bottom up, radiating outward from the core. I will concentrate on Trio_B waves because it is easier to concentrate on only one wave source at a time.

Waves are spiraling outward but between these waves are relatively chaotic semi nonpolarized regions traveling with them. So Daleth_A swarms respond to the polarization by moving towards the Trio_B and continue until a new wave arrives. That is if they are still outside the indentation they will continue in that direction until another wave arrives.

If the Daleth_A swarm was quite a distance from the Trio_B swarm this will continue until its quasi inertia carries it over the selective horizon. The Aleph/Beth backflow here is such that its primary torque must shift and reverse direction just to stay in free fall (see quasi gravity above) but once a new wave passes by, the swarm experiences only destructive interference and it accelerates towards the outside. It continues in that direction until a new wave passes by. If it is still within the indentation it will continue to accelerate away until it is past the selective horizon and soon after it will again turn towards Trio_B when new waves pass through. It will continue back and forth over the selective horizon until it achieves a velocity and orbital that allows it to resonate with these waves for the most part. I have to consider here the Daleth_A swarm's motion and position within its own orbital as a factor in determining where these resonances happen. If one is pushing a swing but the swing is in the wrong position, the push has no effect so it is easy to see why these resonances could happen. But an orbiting swarm is more complicated. If within the swarm's own orbital, its velocity is such that it has a 3space presentation that is compatible with particular wave of polarized shear it will move towards the core. If its presentation is not compatible it will move away from the core. All of the waves coming from the core have the same orientation so the variations in a Daleth_A swarm's orbital position and the resultant changes of its 3space presentation could cause it to fluctuate with alternate waves coming from the core. Any changes in its orbital size due to added energy would need to agree with these fluctuations. Otherwise the energy would not be absorbed. So its orbital could be one core wavelength in diameter or two or three etc but never a fraction of a core's wave length. In this way it could absorb only quasi photons with specific energies as it is driven to higher or wider orbital. And likewise it could only release quasi photons with specific energies as it falls to a lower or smaller orbital.

It probably would not be locked into these resonances. Any fluctuation of the interface could send it careening away from its base positions but it would very likely return to this state because of the regular passing of Trio_B waves. So the picture here is of a somewhat indefinite orbital with a preferred region of occupation near an attractor at the indentation's selective horizon. This would be its base orbital or state of lowest energy.

Daleth_A swarm's orbital paths need not to be confined to circles with the core at their center. They could be to one side and have paths that are elliptical, parabolic or hyperbolic where one focus is somewhere along the selective horizon. The orbits created by our gravity are not analogous to these orbitals. Planet orbits are sun centered because its gravity is constant whereas the swarm orbital configurations are determined by fluctuating polarized shear.

As a parabolas or hyperbolas they could continue to infinity when given very high energies but at lower energies they would respond to the waves of polarized interface from the core by

returning to and reentering the selective horizon where they would again be ejected to follow a shifted orbital path. This concept raises the possibilities of many orbital shapes that could be determined solely by their present velocity and resonance with the core.

I need to briefly revisit some concepts already covered. In the section entitled “Intro to Quasi charge” I mentioned that 3space twists around a swarm should appear to be the same for all 3space observers. That is if they were clockwise, all observers should see them as clockwise from every angle. This means that the “clockwise” configuration observed on one side is actually opposite the “clockwise” configuration observed on the other side. This also should be true regarding swarm orbitals. If a swarm follows a “clockwise” path when viewed from one side it will still have a “clockwise” path when viewed from the other side. Again this means that the “clockwise” path observed on one side is actually opposite the “clockwise” path observed on the other side. This principle applies to freely moving Daleth_A swarms and to any cores.

This is not simply an interesting aside because Daleth_A swarms associated with a core must respond to waves of torque with this shifting orientation as they move around the core. On opposite sides, the waves have opposite 3space presentations and Daleth_A swarms must reflect this by displaying opposite orbital spins when they are on opposite sides. This is allowed because of their 5space characteristics. In this case the Daleth_A swarms are the observers.

The 5space properties of a cylindrical Daleth_A swarm would allow configurations that would not be apparent or even allowed within a purely 3space construct. If it receives more energy and velocity, its base could temporarily occupy higher or wider orbitals. As suggested above these higher orbitals would not need to have the core at their centers. They could be of a variety shapes based on various conic sections with the foci of the smallest orbitals somewhere along the selective horizon. Under some circumstances these orbital could be “permanent” under others very short-lived.

The shapes of these orbitals would depend on the velocity and spin of the Daleth_A swarm(s). The base orbitals would appear to be spherical in that they could be rapidly shifting cones with indeterminate positions creating a fuzzy sphere that delineates the selective horizon. Other orbitals could be twin spheres or cones occupying two sides above the base orbital.

They could resonate between regions that are on opposite sides of the base state orbital. They could do this because they could behave like cylindrical pendulums. This could only be viewed from 5space. They could shift back and forth over the 3space interface with ease and follow a distorted figure eight pattern that allows them to take on opposite orbital spins on opposite sides. I say distorted because I don't see how they could leave the 3space interface at any time. So the crossover point might be very near the selective horizon while the lobes with opposite spins would be on opposite sides. This could be one example of quasi superpositioning. Another player may come up with a more satisfying solution.

As suggested above orbital diameters would need to be resonant with the waves radiating from the core. The orbital could be one wavelength in “diameter”. Or it could be two wavelengths in “diameter”. Or it could be three wavelengths in “diameter” etc. These “diameters” would determine the orbital apogee from the selective horizon. Apogee in this context includes the point at which Daleth_A swarms reverse their outward parabolic or hyperbolic paths in response to waves from the core. They could then follow a shifted parabolic or hyperbolic orbital path with a new focus point on the selective horizon or they could follow a funnel shaped orbital in which the wide portion faces away from the core and the narrow end is at

the selective horizon.

Daleth_A swarms around the more complex cores would also need to follow these principles of resonance with their cores. Their orbital diameters would also need to be multiple wavelengths of the complex core's spin. The presence of other Daleth_A swarms would also influence their orbital shapes.

Another factor to be considered is that the 3space contact and presentation of a hyper cylindrical Daleth_A swarm is that of a sphere and its orbital path will also be some form of sphere not simply a circle. It will be suggested below that when there are multiple connected Trios_B swarms, they can interact with multiple Daleth_A swarms. The 3space presentations of these Daleth_A swarms will have packing appropriate to the situation.

Stacking

Cores with one or two connected Trios_B swarms (I am ignoring Quartet contributions for now) will allow one or two Daleth_A swarms to occupy a region of quasi gravitational overlap that surrounds the entire core. Their positions in this region would be indeterminate because none of them could keep up with the spinning swarm. They are simply controlled by the waves of torque passing by them changing directions as appropriate. This region while somewhat indefinite could be very large. The presence of the Daleth_A swarms would encourage the Trios_B swarms to move closer together. The size of the core would be minuscule when compared with its region of quasi gravitational overlap. Daleth_A swarms occupying this innermost sphere would need to have opposite spins because that is the only orientation that allows two Daleth_A swarms to have the same 3space presentation on their adjacent sides. This is a quasi "Pauli exclusion principle". These Daleth_A swarms would occupy a quasi "1s" region of quasi gravitational overlap.

Cores with three or four connected Trios_B swarms will allow three or four Daleth_A swarms. The third and fourth Daleth_A swarms would form a second large irregular concentric sphere outside the first. They could not share the inner sphere because they would have the same spins as the swarms already present. Even here their spins would have the effect of limiting the motion of the inner Daleth_A swarms. However swarms with the same spin could switch places between regions. The higher swarm would simply pass energy to the lower. These would be quasi "1s" and "2s" regions of quasi gravitational overlap.

Daleth_A swarms would also have opposite spins if they occupied cones on opposite sides of the core. In this way their spins could still be compatible with the core and each other if they come in contact.

Five or more Trios_B swarms would allow five or more Daleth_A swarms. The additional Daleth_A swarms would still be able to occupy the second spherical region of quasi gravitational overlap but they would break it up because the region is so large. No individual swarm in this region could follow an orbital all the way around the core in the time it takes for one revolution of the core. They could form similar quasi "1s", "2s", "2p", and tetrahedral hybridization configurations that are allowed for electron packing in our universe. Why tetrahedrons? Because the large Daleth_A swarm spherical regions of quasi gravitational overlap would be packed around the central Trios_B most efficiently if they formed tetrahedrons like oranges at a fruit stand. As the cores are enlarged other Daleth_A swarms could join them if they took on the opposite 3space

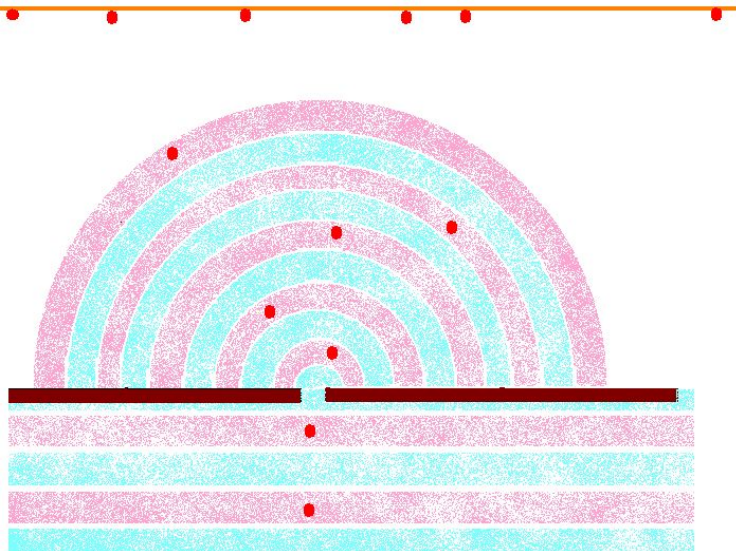
presentation that is had reverse spins (see how Daleth_A swarms can move together above). In this way the tetrahedron pattern could accommodate layers of eight Daleth_A swarms. As cores are enlarged each new layer of the additional Daleth_A swarms would attempt to continue this packing. Irregularities of packing are likely to occur frequently as layers are added because additional connected Trios_B and Quartets and their complementary Daleth_A swarms alter the shape of the region of quasi gravitational overlap.

This suggests that Quasi bonding could be described as regions of Daleth_A swarms' quasi gravitational indentation overlap while belonging to different cores. These overlapping or shared gravitational indentations could bind adjacent cores together.

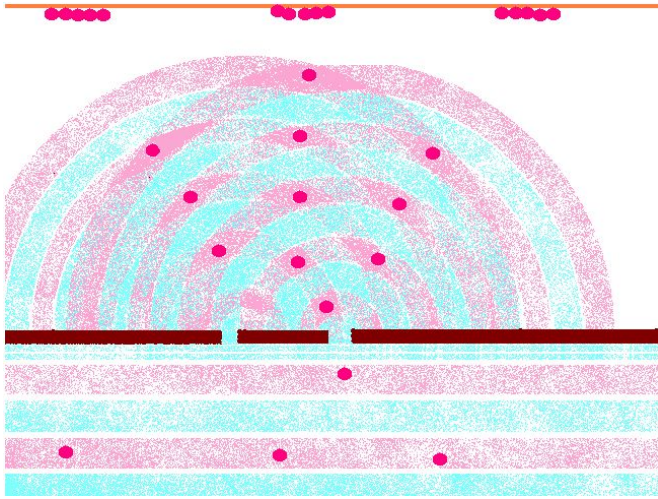
A semi Pachinko effect

The picture I have presented one in which all objects including quasi photons are surrounded by fields of polarized shear. The shapes of these objects whether “charged” or neutral” will determine the shapes of these fields. What’s more whenever these objects are in motion, polarized shear perpendicular to the direction of this motion is propagated at the speed of quasilight but the components parallel to the motion direction will move at the speed of the object. This is because the vortices of the polarized shear will have the same orientation and speed as those within the surge torque of the object. The numbers of these polarized vortices within the shear will decrease with the square of the distance but each individual polarized vortex will have the same energy and velocity as that of the surge. So the picture here is of a field extending away on all sides of a moving swarm, swarm conglomerate or quasi photon. If the quasi matter object has a predominate torque, its polarized shear would be apparent as a quasi magnetic field. It would also have the characteristic rebound waves of a “partially collapsing” quasi magnetic field. This suggests that it would have a series of waves, one powerful, followed by progressively weaker waves.

The object could also be neutral when it has surge torques that contain equal numbers of Aleph and Beth vortices, for instance waves generated by Daleth_A swarms interspersed with Beth predominant waves of torque generated by Trio_B core elements . In this case the field would still exist but the conglomerate would not interact with charged objects. These fields move with the objects because as stated above their vortices match those within the surge torque of the objects.



When these objects pass through a single vertical slit, the horizontal aspects of these fields take on aspects of a water wave passing through a slit in a barrier in that they spread out in circles. If the object continues forward, the waves would eventually become perpendicular to the direction of motion but swarm motion would now be perpendicular to some arc of the original circle. If a detector was placed at some distance from the slit, it would exhibit a spray of particles.



Place a second slit in the barrier close to the first. When the main swarm enters one slit a detached wave of polarized shear enters the second. This detached wave would normally dissipate by spreading out on the sides but its change of shape into an arc against the wall might prevent this. So the suggestion here is that waves of polarized shear associated with the object spread out as two circles and like water waves these circles interact with each other to form regions of constructive and destructive interference. It doesn't matter as to which advancing circle contains the

object, it will tend to follow the constructive interference created by secondary waves as they interact with its wave. The region of constructive interference it follows could be determined by its motion and position within its indentation when it enters the field. Its pendulum like nature, could also allow it oscillate between regions of constructive interference while moving within the field. All of this would tend to limit which regions that it would hit on a detection screen. The pattern of lines that develops would reflect the pattern of interference created by the circles of polarized shear. It is the probability inherent in this pattern that would determine where individual objects are likely to hit the screen. Changes in the position of the detection screen could very well determine where the swarm would strike. The act of observing would force a result. Furthermore an observer within the quasi universe could not tell where individual objects were within the pattern until they struck a detector. An observer outside the 3space interface could watch their progression "down the shifting Pachinko board".

The polarized shear should also accompany collimated, coherent beams of quasi photons and even individual quasi photons. This raises the possibility that individual quasi photons could behave as coherent beams when passed through a Mach-Zehnder interferometer because the attendant wave of polarized shear could be split and reflected. The quasi photon could continue to travel with either half of the wave but if this wave ultimately interferes destructively with itself, it could also interfere with the quasi photon rendering it undetectable.

Quasi photons are described below as series of alternately escaping sheets of shear vortices responding to and reinforcing a wave of torque. It also been noted above that this wave of torque has additional shear vortices as a field on either side. This is the field of polarized shear that I describe as a part of individual quasi photons.

A mechanism will be suggested below that allows quasi photons to transfer energy to and from swarms. These energy transfers should always reflect the changes in velocities of swarms as they change orbitals. And since the orbital must resonate with the cores, the quasi photons emitted or absorbed should always have the same energy and wave length for a particular change in orbital within a specific core.

A not so spooky action at a distance

So far we have only explored the transverse waves that move along the 3 and 4space interfaces. I want to briefly think about the longitudinal waves that might travel within the Daleth, Aleph and Beth fluids. These would be analogous to the pressure waves that travel in the fluids of our universe such as sound. Sound waves within the water of a pond travel much faster than the slow transverse waves at its surface.

These waves should also be confined to the region between the adjacent 4space interfaces that define advancing Daleth because here there is a change of media. So there is the likelihood of resonant interaction with other vortices for99med along the 3space interface. However one looks at it, there should be intense longitudinal wave activity between vortices, swarms and quasi photonic structures around the region of shear. This would provide additional stability to structures determined by torque.

Some potential properties of these longitudinal waves are suggested below.

They could very well travel 7.57 times the speed of quasi light as suggested in the Science News article “Holism and particlism in physics” (SCIENCE NEWS, VOL. 129 #5 pg 70 February 1, 1986). This article was about the “Bohm quantum potential” that Einstein called “spooky action at a distance” and it was the only one I could find that assigned a definite speed to the Bohm quantum potential propagation. Others, references that I have found, simply refer to it as instantaneous or nonlocal and I suggest here that sometime the term “nonlocal” is really imposed upon that which cannot be measured with our present tools

The quasi Bohm quantum potential waves associated with the quasi universe could have more complex configurations and motion than that allowed the longitudinal waves in our universe because they are 5space phenomena. Sound waves in our universe while being longitudinal wave forms have curved planar (2space) fronts. Within the model, quasi Bohm waves are also longitudinal but they have curved hyper volumetric (4space) fronts.

The extrapolation goes something like this:

Longitudinal waves traveling within a plane (a 2space) will have a linear (1space) front

Longitudinal waves traveling within a volume (a 3space) will have a planar (2space) front.

Longitudinal waves traveling within a hyper volume (a 4space) will have a volume (3space) shaped front.

Longitudinal waves traveling within a 5space hyper volume will have a 4space hyper volume shaped front.

It seems likely that a 5space longitudinal wave could carry information that reflects the quasi quantum states of resonant objects such that any changes in one object would cause changes in other. These objects could be the individual vortices within a swarm, whole swarms, swarm conglomerates or quasi photonic wave trains.

These resonances between pairs of vortices, swarms or quasi photons could easily be broken by outside interferences but at very short distances they could be very intense and enhance the effects of torque.

A quasi Bohm quantum potential pressure wave (quasi pilot wave?) could be hybridized in

that it could distort adjacent interfaces to form contours similar to transverse waves but it would travel much faster. Any actions imposed by one object upon another through the intermediation of these pressure waves would appear to be instantaneous to the occupants of the quasi universe. And since “nothing can travel faster than quasi light”, it would seem to be “spooky action at a distance”.

Individual vortices within waves of polarized shear could also have additional connections by quasi Bohm quantum potential pressure waves.

Quasi Bohm quantum potential pressure waves could contribute to the resonances within Individual swarms

This could include the components of Trios and Quartets.

These could include resonances with the components of multiple Trios, Quartets and “free” Daleth swarms, thereby influencing orbital positions, quantum states and resonances of all quasi atomic and quasi molecular structures.

All of this may seem to give these internal waves too much credit until we consider that all vortices are immersed in 5space fluids and that there must be some interaction within the fluids that define the interfaces, particularly between and within the 5space cylinders as they travel up the 4space interfaces through Daleth. We are familiar with sound’s potential for resonance in our universe. I believe that similar principles could operate here except the potential for much more complex wave configurations should be available in a 5space fluid.

The resonant factor could be something like this. I will use two unattached Daleth_A swarms traveling together for the sake of simplicity. They can only travel together if they have opposite spins but it’s a wild quasi universe out there and there are many situations that could cause one or the other to alter its spin. If the only communication between them is the polarized swarm torque, the swarm with the change in quasi quantum state might end up going its own way. But as it changes its quasi quantum state it initiates a change in the quasi Bohm quantum potential resonance between them such that the second swarm reverses its quantum state to compliment the first. Allow that changes in the quasi quantum states are going on all of the time with the Daleth_A pair and that the quasi Bohm quantum potential resonance maintains their complimentary states continuously by reversing the state of each as the other changes. Create a situation where the pair becomes separated but maintain their quasi Bohm quantum potential resonance (quasi entanglement). Let one Daleth_A swarm interact in such a way that its last quasi quantum state becomes a base state. It has been observed. . The wave goes out that it has a change in quasi quantum state. The second swarm responds but the resonance is broken. If the second swarm is observed now, it has the quasi quantum state that complements the first swarm’s quasi quantum state. But this didn’t happen until one of them was observed or forced into base state. These principles should apply to any swarm pair configuration (cylinder based or quasi photons) that have complimentary quantum states that are maintained by quasi Bohm quantum potential resonance.

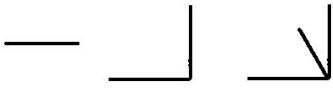
So the model has evolved to one in which the different quasi universal components are restricted and guided by torque of the 4space interfaces and resonant quasi Bohm quantum potential waves within the Daleth fluid or “sonic boom” analogs within the other two fluids.

I use the “sonic boom” analogy because if Daleth is advancing many times faster than

quasi light the quasi Bohm quantum potential waves would move back through Daleth at their normal speed (7.57 times the speed of quasi light) relative to the advancing interface. But in Aleph and Beth they would be pressed against the advancing 3space interface. Their speeds in the lateral directions along the 3space interface could very well be different. In Aleph it might be faster and in Beth slower because of their different densities.

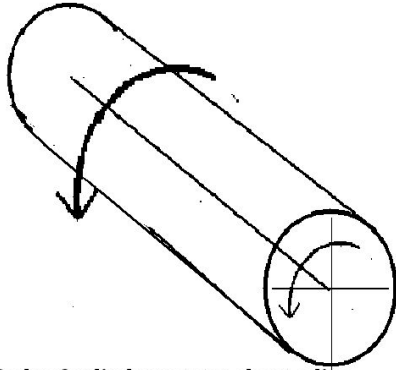
Intrinsic Spin States within the Quasiuniverse

Here I would like to consider some multi dimensional rotation concepts, specifically that of planar (2space) rotation about point, and single or multiple axes



All configurations end and/or meet at points

derived from the orientation of the rotational plane even though it is about a point. The associated plane or volume within the higher space may be undefined since we can not determine the far edges..



Body of cylinder rotates about a line but ends rotate about a point

Ignoring rotation we see that within 3space all potential axes can meet or end at points. This suggests that 4 and 5space axes, that have an associated planar rotation within 3space, will have a point contact within that plane because we are looking at the ends of all axes where they meet. It would be like looking at the corner of a rectangle or a cube. The orientation of the 3space axis will be

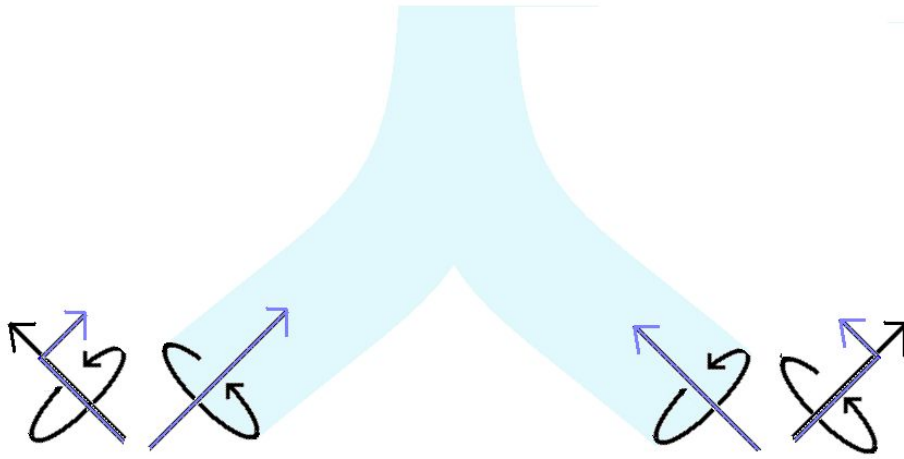
This is another way of looking at the situation. The body of a cylinder rotates about a line but the ends rotate about a point. This should also be true for 4 and 5space columns that end at 3space. The act of rotation is always within a plane. This is true even for Clifford rotation which is in two independent planes (but is not possible below 4D). So it seems reasonable to consider that all the other higher dimensional axes generated by the rotating fluids meet each other and contact 3space at a point. This point is after all at the ends of the axes. The 3space axis is always implied by the orientation of the rotational plane but any additional axes are difficult to imagine. For purposes of their 3space presentation I'm not considering the forms outside the 3D interface except as to how they might affect it.

We have in 3space only examples of rotation about a point and a line but since each of these rotations is planar it seems reasonable to consider planar rotation about multiple axes. There has already been suggestion of 4space rotation about 2 axes. (see www.eusebeia.dyndns.org/4d/vis/10-rot-1) that is planar rotation of a 4 axis system about a plane. This quasi universe is based upon the concept of three 5spaces meeting at a 3space. The corollary to this is that 5spaces may rotate about three axes. So rotating 5space objects can have planar rotation about three axes. In most cases within this universal 5space, the planar rotation involves only two axes, one is 3space and the other an unseen 4space axes. The swarms of 5space vortices cannot exist away from their shear, so we will consider only those axes available within the 4space interface.

For instance if 3space has axes x, y and z, and we only consider a 4space axis w of the available 5spaces axis v, w, x, y, and z planar rotation could be xy around w z or xz around w y or yz about w x. Under these conditions relative to 3space these objects must have intrinsic spin $\frac{1}{2}$ as they move as explained below.

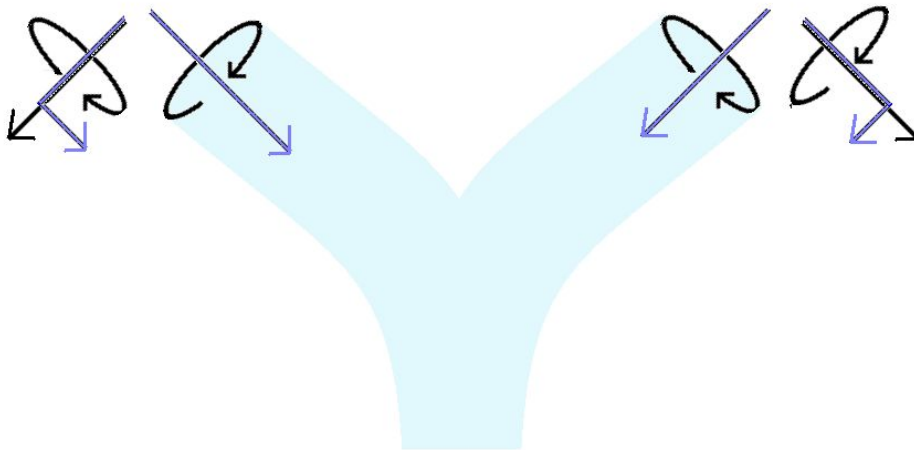
Consider one effect of the 4space column rotating about two perpendicular axes. If one rotates the axes vertexes sequentially he must rotate through two 360° circles before he can place the column in its original state. It is likely that these axes always move together. Even so they will still trace out 720° before they are returned to their initial state. The convention regarding spin involves how many degrees the vertex of an axis must be rotated to return it to its original position. For each 3space axis it is 360° . This is a spin of 1 ($360^\circ/360^\circ$) For 4space plane with two axis it is $\frac{1}{2}$ ($360^\circ/720^\circ$).

As an aside, the $h/2\pi$ boundary for photonic structures discussed above may also come into play for the vortex concentrations within the swarm. Only instead of causing a rebound it forces vortex concentration further along the plane of rotation. This motion must be compatible or resonant with all other motions the swarm is experiencing. Another way that swarms could exhibit $\frac{1}{2}$ spin is suggested below.



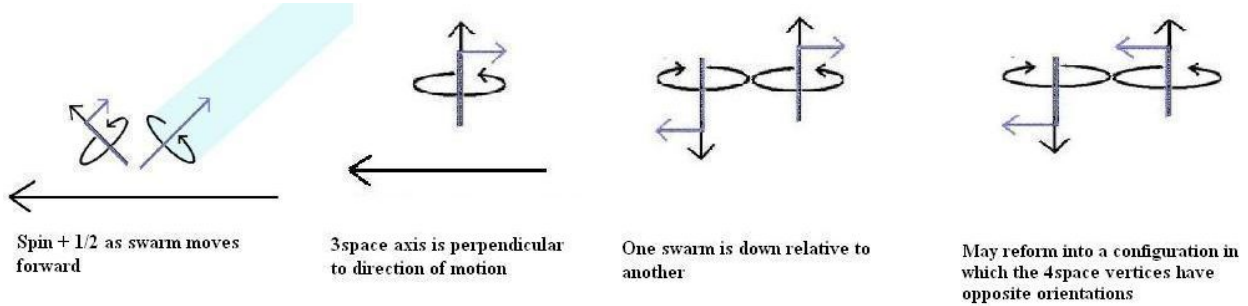
Spin + 1/2

Each diagram shows a swarm's column and intrinsic spin at two positions of the swarm's orbital. A swarm column must move about a center to follow the orbital where it contacts 3space. To do that, its axis must be different from the axis of the orbital, let's say an axis tilted 45 degrees from the perpendicular to the orbital. The 3space axis must be perpendicular to both the 5space column and the plane of rotation where the swarm contacts 3space. This axis of rotation must also be 45 degrees from the perpendicular of the orbital hence most swarms depending upon the shape of the orbital will have an intrinsic spin of + or - $\frac{1}{2}$. This also suggests that objects made up of swarm combinations will also have spins of + or - $\frac{1}{2}$. In the diagram above for + $\frac{1}{2}$ spin, the outer swarm depictions suggest one possible 3space presentations with the two axes combined as blue and black lines perpendicular swarm rotation and each other. The plane of rotation is the same for the column contact with 3space and the 3space presentation. I had to make a choice as to whether I would diagram it as perpendicular to the 3space axis or the 5space axis. I chose the 3space axis. The diagram below uses the same depictions for spin - $\frac{1}{2}$. The blue lines are parallel to the swarm column's axis. The black 3space axis could be in any position around the blue. The rotation would follow them and always be perpendicular both.



Spin - 1/2

Discussion within “Quasi Inertial Mass” suggests that it is the imbalance of torque at 3space that causes a swarm and its column to move. Therefore the column is always being pulled by the swarm’s activity at 3space and it is never totally perpendicular to the 3space interface. Again this offset must be reflected in the 3space presentation of a swarm’s orientation relative to its direction of travel.



Having said all this I need to reemphasize the influence of orbital resonances on the allowed spins present in these structures. The orbital sizes and orientation are only allowed where resonances permit. If a potential orbital position is dissonant (destructive interference), a swarm will shift to one that resonant (constructive interference). Energy sufficient to raise a swarm to only a dissonant position will not be absorbed. Energy sufficient to raise a swarm to a resonant position will be absorbed. Energy released when a swarm drops from one resonant position to another will always be the same.

I can't fit more than three axis into 3space but then neither can I fit more than two perpendicular axes into a 2space even though I know there is a third direction. My limitation is not a refutation.

I also cannot visualize 4space or 5space. Perhaps the key word here is "visualize". If I am to visualize something, I'm using programming designed for light. Light in this universe and quasi light in the quasi universe are 3space phenomena. That is, the light is confined to the 3space interface and does not function as such, away from it, in 4 or 5space.

I need new programming based upon other energy patterns.

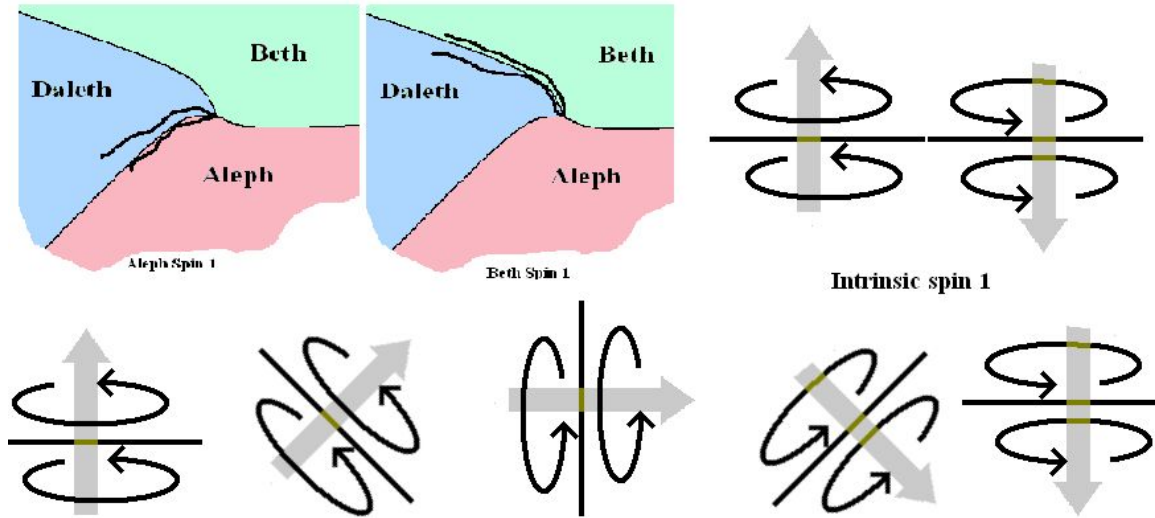
Again my limitation is not a refutation.

Using the above concepts if a swarm has rotation such that its 5space axis is parallel to the orbital axis its 5space presentation would have an intrinsic spin of 1 but the 3space presentation would have intrinsic spin 0 or be perpendicular to the orbital axis (because it must be always perpendicular to 5space axis). The reverse is also true if 5space is spin 0, 3space is spin 1.

If we ignore motion and apply some of earlier concepts to this model we find that it can have actual structural analogs to the mathematical constructs of whole number intrinsic spin states within our universe. Particularly when we consider that we only observe the ends of rotating 5space columns where they contact 3space

Now I will speculate about the whole number analogs.

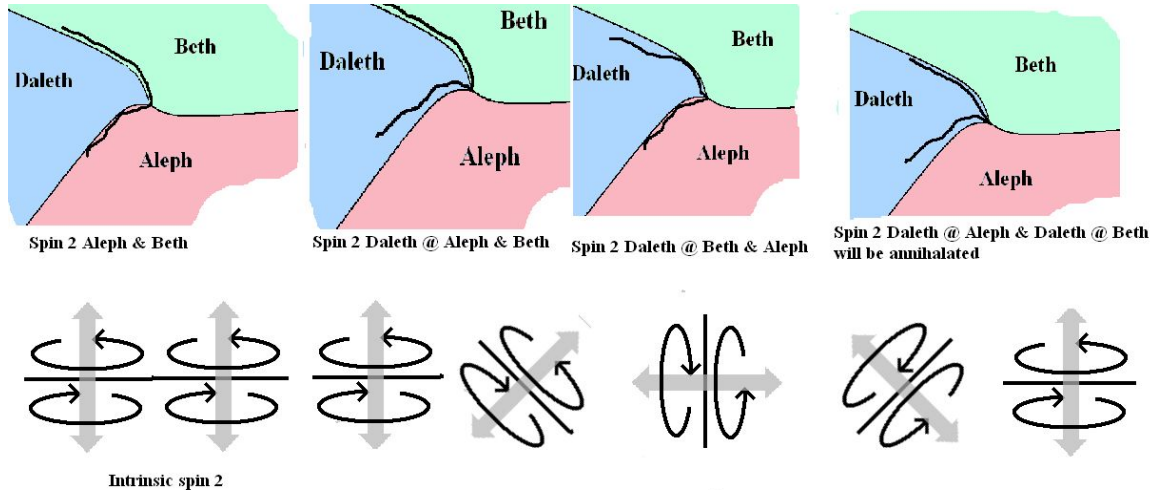
Consider structures having no motion but only comprised of two swarms both of which are on either the Aleph or the Beth side of the 3space interface. These could have spin designated in 5space as 0 and a spin presentation in 3space of 1. A reverse relationship is also possible.



Intrinsic spin 1 has up and down configurations

As with spin 1/2 when observed in 3space these structures can have evident up and down orientations in which the direction of rotation is reversed. Put them in motion and they take on a spin of 1/2.

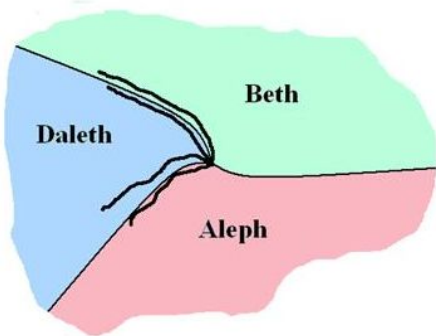
There could also be structures comprised of two swarms in which one occupies the Aleph side and the other occupies the Beth side of the 3space interface. These swarms would spin in opposite directions to each other. This is allowed because they do not actually touch but follow the same torque pattern (vortices with opposite rotation move in opposite direction when subjected to the same torque). The resulting structure would have spin designated as 2 in both 3space and 5space.



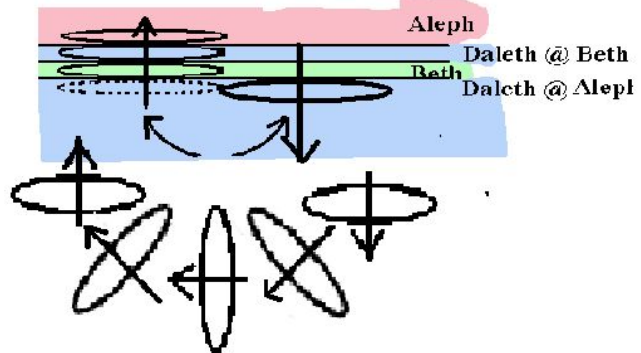
Intrinsic spin 2 flipped does not change configuration

There is no up or down

When observed in 3space these structures can have no evident up or down orientations in which the rotation direction is reversed. You would think that these objects in motion would take on a spin of +1/2 and spin -1/2 however things are not totally in balance in the quasi universe (bubble on ceiling or floor) so the dominant spin would be the observed spin.



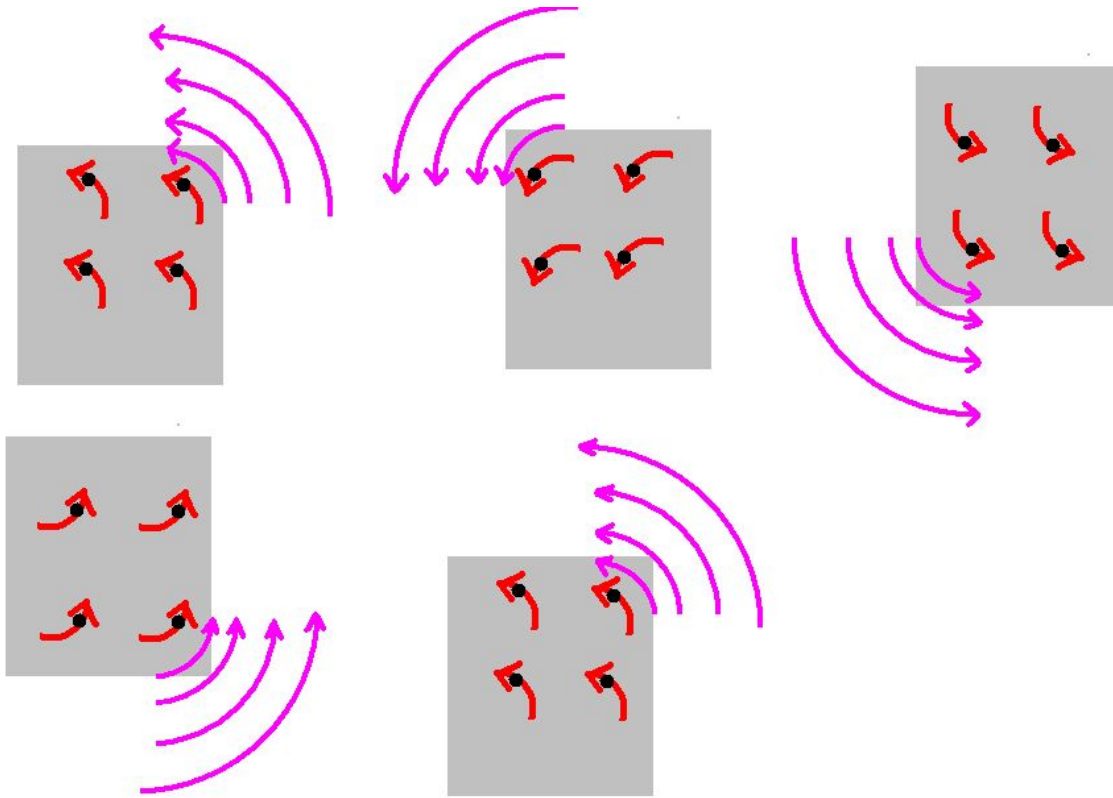
5space view Aleph Beth and Daleth Quartet



Daleth_A flips between two spin states in a static Quartet

Quartets which are analogous to neutrons in our universe are an example of another imbalance of spin. They would appear to have no spin if all things were equal. But all things are not equal. One Daleth swarm is alternating between up and down states within the quartet (see "Some imagined structures" above). This creates a situation where quartets are observed to have 1/2 spin but with a lower magnetic moment.

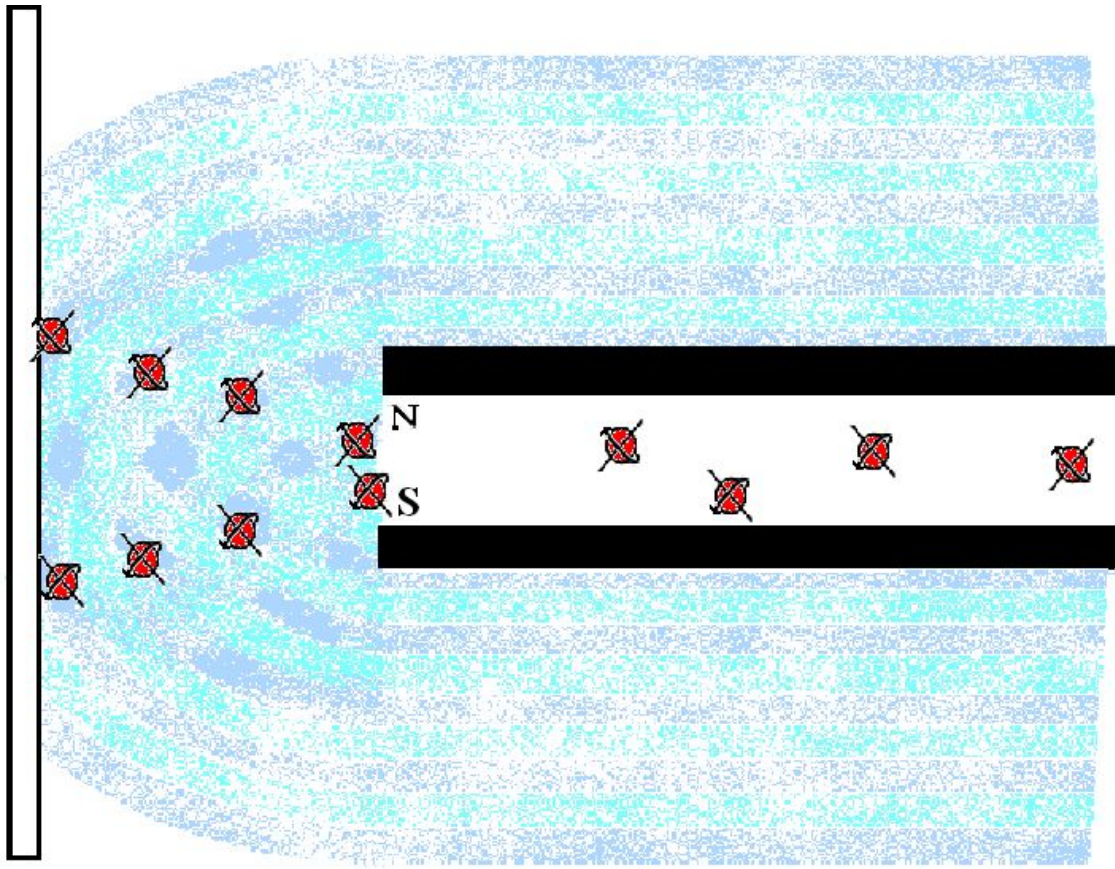
Quasi quantized spin



Swarms within the nodes move in the same direction while in phase

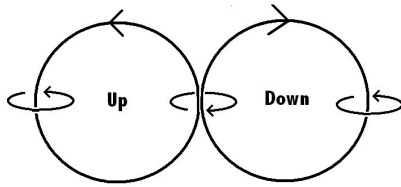
Waves of polarized shear follow

Apparent quantized spin states within the quasiuniverse are created by the minute fluctuations of the node's synchronized orbital motions within quasi magnetic material. All quasi matter produces these high frequency fluctuations. This is a situation where high frequency is not a consequence of high energy. The waves generated by swarms in orbitals have very low amplitude and therefore low energy. The swarms have extreme velocity but their orbitals are minuscule so they make an enormous number of circuits per unit of time. Since every circuit creates a wave of polarized shear the outcome is high frequency fluctuations with low amplitude that never reach quasi Planck energies. The fluctuations within quasi magnetic field should behave the same as those found in all quasi matter.



Regions around two closely placed magnetic poles have interference patterns creating a “Pachinko effect” which limit the paths that polar spinning may objects follow. This interference is more a matter of weakened waves where there is destructive interference verses waves with little or no interference. So object with $+ 1/2$ spin will follow the full amplitude wave pattern that agrees with their spin and those with $- 1/2$ spin follow the other. They will not exhibit the smooth transition that would be expected otherwise.

Quasi Bonding



2 Daleth rings at the Aleph interface
(Daleth_A)

Daleth swarms occupy only the Daleth sides of the Daleth\Aleph and Daleth\ Beth 3 and 4space interfaces. They are not held in place as firmly as the Trio or Quartet swarms that share common torque around all three sides of the 3space interface. Individually Daleth swarms are easily deflected by random fluctuations of the 3space interface but I see them as being more substantial if they travel in pairs consisting of either two Daleth_A or two Daleth_B swarms. To do this they must assume 3space presentations in which the vortices on their closest sides are traveling in the same direction. Remember vortices that have the same 3space

presentation tend to move closer together. This simply requires that their swarms have opposite 3space rotations. (If these swarms had the same 3space rotations, the vortices on their adjacent sides will have opposite 3space presentations and they would tend to move away from each other.)

This has several consequences:

One is that virtual well orbitals could be combined in such a way as to support two Daleth_A swarms each with opposite 3space spin. This would be allowed because their indentations are so shallow and they could easily combine to form a shared orbital.

A second is that a third Daleth_A swarm entering an orbital region containing an established pair must have the same spin as both of them. It can't and so it will depart.

A third and very important consequence is that Daleth_A swarms with opposite spins that are associated with separate cores could force their cores to form orbitals that are compatible and thereby link these core systems. This is because, although I have emphasized the influence of the core's waves of polarized shear on Daleth_A swarms, the waves of polarized shear emanating back to the cores from the Daleth_A swarms must also have considerable affect on their cores. This is sort of a tit for tat situation. In this case their individual cores would be forced to have spins opposite to one another other, even though they don't touch.

The torque at the 3space interface where the Daleth_A swarms touch would be extreme because of their proximity. It would be much more intense than any of the other waves of torque they are likely to encounter under low energy environments.

Furthermore if one considers these streaming cylinders to be fluid and flexible, the motions of their bases could cause them to become intertwined at the 4space interface. This combined with their Quasi Bohm quantum potential pressure waves would be additional incentive to keep them closer together.

Also available shear (see below) would limit the numbers of vortices present where these swarms touch, so we could say that this "covalent configuration" has less energy than when the swarms are separate and it would take additional energy in the form of new vortices supplied by quasi photons to separate them

This would be the essence of quasi covalent bonds.

In this version of quasi universe, Trio_B cores with peripheral Daleth_A swarms will be quasi

matter. Trio_A swarms with peripheral Daleth_B swarms will be quasi anti matter. So within quasi universe the bonding described will involve Trio_B swarms with peripheral Daleth_A swarms. This is not to say that quasi anti matter does not exist. But here, there is not enough of it normally to form quasi covalent bonds.

At this point I am going to start calling these configurations of Quartets, and Trio_B swarms with their attendant Daleth_A swarms “quasi atoms”. If there were equal numbers of Trio_B swarms and Daleth_A swarms in a quasi atom, it would produce equal amounts of Aleph and Beth torque and polarized shear.

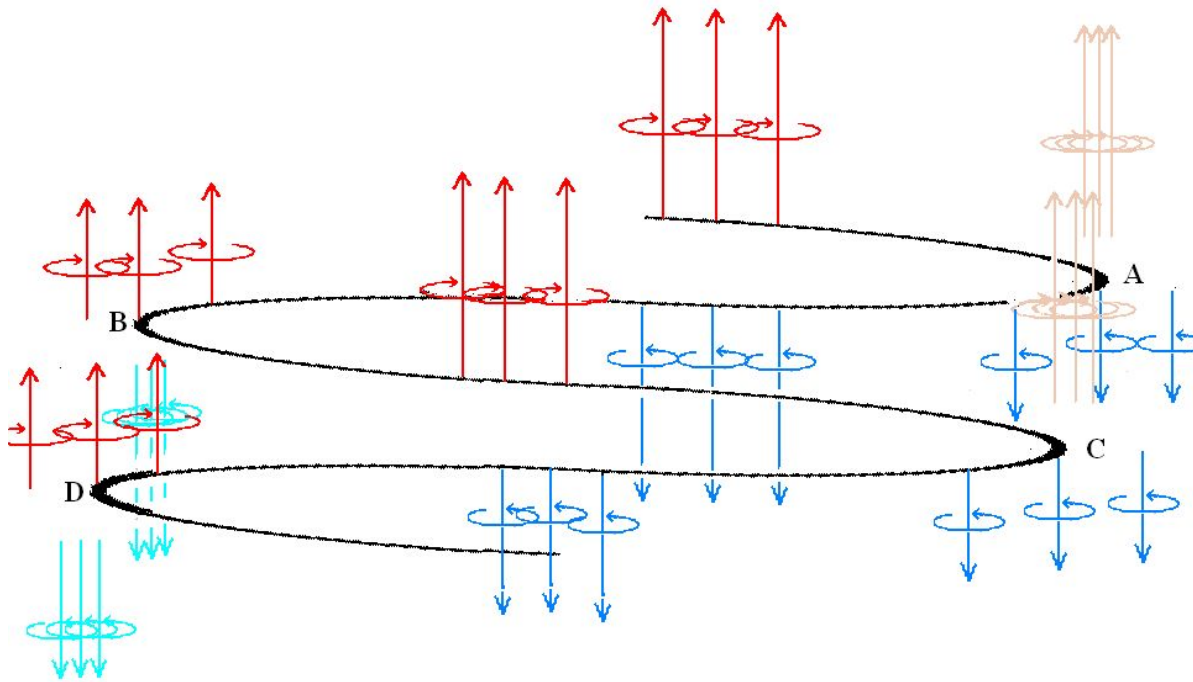
However individual quasi atom while being “torque and shear neutral” could still have incomplete sets of orbitals (discussed below) in which the status of any Daleth_A swarm within them would be indeterminate, that is they could not fall into any particular ground state without disrupting swarms that are already paired or they have difficulty maintaining resonance with their core. They are still influenced by the waves of torque from the core so they remain in its vicinity but they are bouncing all over the place. These are the Daleth_A swarms that would be candidates for pairing with swarms of other quasi atoms.

If there were multiple paired Daleth_A swarms between two or more quasi atoms, they would tend to remain together forming multiple quasi covalent bonds. These multiple bonds would tend to keep the atoms together even if a Daleth pair breaks up momentarily or wanders too close to one core. The remaining bonds would maintain the established structure until the prodigals returned.

On the other hand, if there were only one or two shared quasi bonds the quasi atoms could separate with one of them leaving its Daleth_A swarm(s) with the other. Now, one quasi atom is Aleph dominant and the other is Beth dominant. They are quasi ions. If there was some “quasi polar solvent” present that could act as an intermediary between them, these quasi ions could wander away from each other. But without the intermediary these quasi ions could very well arrange themselves into stable lattice like structures as described in the section titled “quasi charge” above. This would be quasi electrostatic bonding.

Obviously I haven't covered all of the bonding possibilities here. I've suggested above the fluidity and indeterminate nature of the Daleth_A 5space cylinders and their positions of contact with the 3space interface so there should be many readers who see the potential for hybrid orbits and other strange configurations involving many quasi atoms such as the quasi pi clouds that accompany quasi benzene and their free movement within quasi metals.

Intro to Quasi photonic patterns



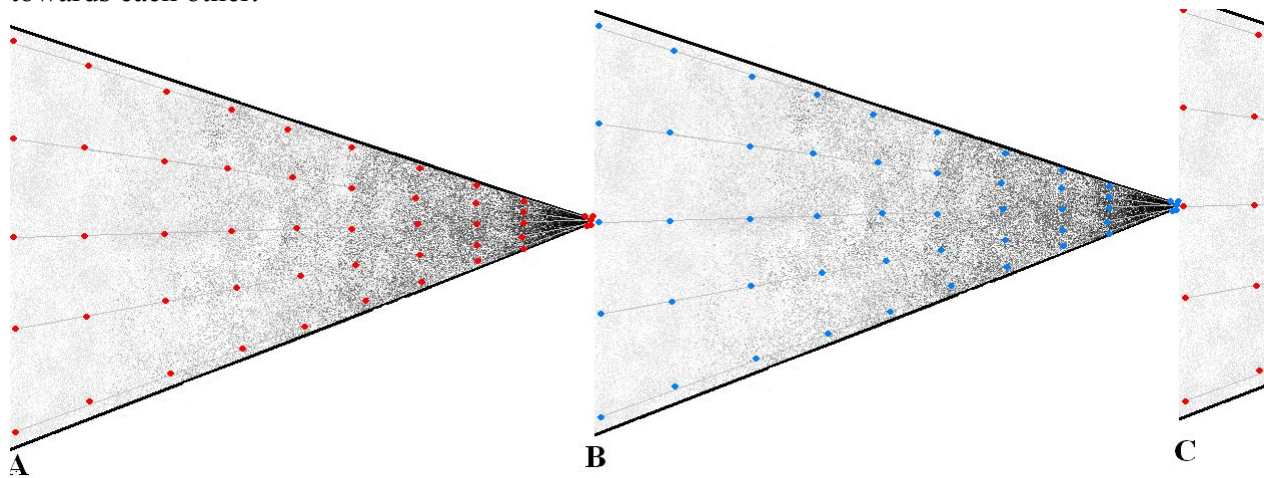
Two cycles of a quasi photon

The diagram above is an incomplete introduction to quasi photonic structure. I call them quasi photonic because not all of them would be recognized as photons in our universe. They could exist on any or all sides of the connecting 4space interfaces. The species we would recognize as quasi photons would occupy both of the Daleth sides of the connecting 4space interfaces.

The wavy line represents torque intensity (not actual torque) and implies the change of torque rotation along the 3space interface as the wave move through.. The arrows represent vortex attachment and escape. The original vortices (not seen) that produce torque have escaped at “A” and the interface starts to rebound reversing torque. Background shear generates new vortices (red) with orientation that is compatible with the rebound torque. The interface continues to twist with the help of these new vortices until it reaches the limit allowed by its geometry at which point in time “B” it starts to rebound or unwind, reversing its torque, forcing the first vortices to escape (pink). Shear generates a second vortex group (blue) with orientation that is compatible with this torque which is maintained with the help these vortices until it again reaches the allowed limit at which point “C” it starts to unwind reversing torque, forcing the second vortex group to escape (light blue). Shear generates a third vortex group (red) with orientation that is compatible with the new torque. The interface continues to twist with the help of this group until it reaches the allowed limit at which point “D” it starts to unwind, reversing its torque, and so on until the wave of torque has passed..

This is one aspect of this diagram. The second very important concept is that vortices in each new group are spread out when they are initially produced. This reflects the tendency of the

concentrated torque to spread out as it starts to reverse. The property of the vortices that forces them to move together within the same torque field causes the torque to become reconcentrated in such a way that it is highly concentrated by the time each group of vortices escapes. The quasi photon continues along the interface in this way. As a wave of torque passes along the 3space interface, the ever present shear creates vortices to maintain it. This is a highly concentrated form of polarized shear. It is also accompanied by the more generalized polarized shear but more about that later. The diagram below is another view of a quasi photon that emphasizes the property of vortices with the same 3space presentation that causes them to move towards each other.



The dots in the above diagram represent a sampling of shear vortices involved with this activity. The diagrams doesn't show their horizontal motion which would align with the wave of torque, right to left. Instead each vertical row represents the relative position of the vortices at various times in the wave's phase as the adjacent 4space interfaces are displaced around their common 3space. This 4space displacement is what I refer to as "torque" and "3space twists". Time "A" shows the beginning of the phase. It would be the initial effect of a rebound wave on the polarized shear. 3space has started to untwist from a previous maximum displacement and this has the same effect on vortices within this field as that of torque applied in the opposite direction. Shear creates compatible vortices (red dots) and as 3space continues to untwist they move closer together.

By the time 3space has reached the point of equilibrium the vortices are not only moving with the wave but they are accelerating towards each other and in the process they are concentrating the torque field in the same rotation as the rebound. This additional torque forces the interface to continue its twisting in this new direction until it can twist no more.

At time and phase "B" the interface is forced to begin its rebound, the old vortices escape up the adjacent 4space interfaces leaving behind another rebound and so shear creates a new set of vortices (blue dots) compatible with the new direction of torque rotation. These new vortices continue to behave as those in the previous phase of the quasi photon, amplifying the "B" rebound into an concentrated field of torque until 3space reaches its maximum allowed twist, these vortices escape and a new phase starts (time C). The effect here is similar the collapsing magnetic fields in our universe in which electrons reverse their direction of motion as soon as the

field starts to collapse and then continue in that direction as the field increases with the reverse polarity. In fact if the photon is absorbed by a swarm (see below) and there is no rebound, the field would be described as having collapsed in our universe.

I have shown only five shear vortices. There would be many, many, many more but available shear and the allowed limits of the displacement around the 3space interface could still ultimately restrict the numbers of shear vortices that could participate in any single phase of a photonic cycle.

Shear would also slow the wave of torque down. Without shear, torque waves might travel much faster but they would also lose energy to the connecting 4space interfaces. With shear, this loss is prevented because the waves are reconstituted during each of their phases and as a consequence the speed of quasi light (and everything else) is also restricted by available shear and allowed vortex densities.

This property of vortices clumping or aggregating together in the presence of torque will cause some wave fronts of torque to breakup into particle like objects rather than spread out as would be expected with traditional transverse waves. These aggregates and their associated radiation are literally soft, hard or extremely hard. This is not a metaphor. They could achieve densities similar to that of quasi matter described below. Their densities would be proportional to the torque present.

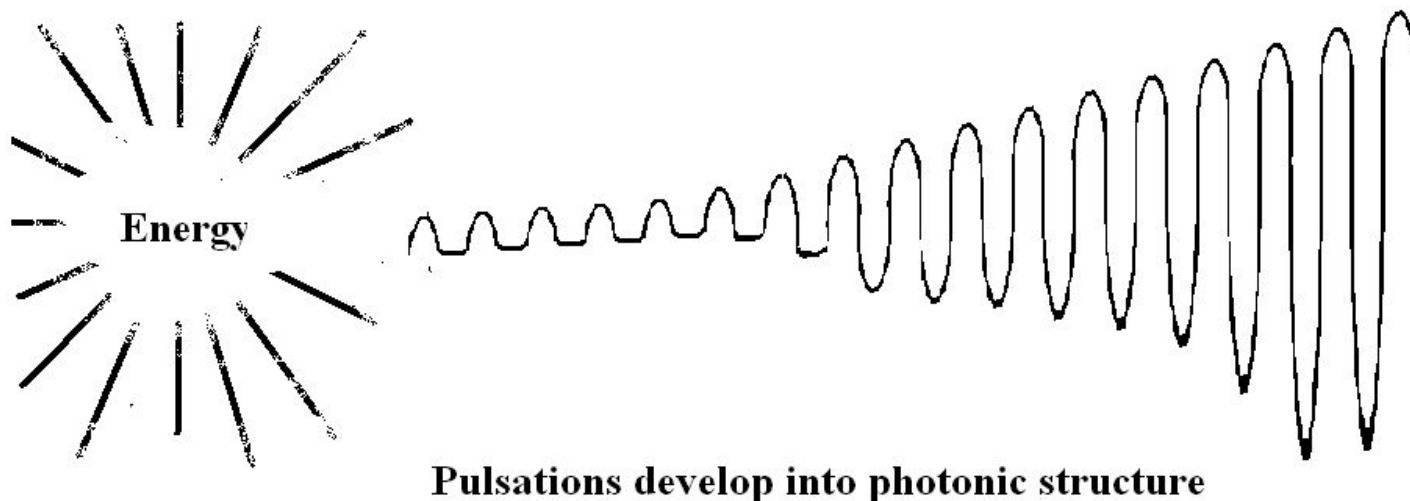
As mentioned above, these aggregates could develop on any or all sides of the downwind 4space interfaces. The same torque could be condensed by any combination of vortices on any sides of these interfaces. All vortices would shift towards the highest concentration of torque. Their 3space direction of motion would be the same but their rotational directions would be opposite. This rotation would depend on which side of the Aleph/Beth horizontal in which they were generated. That is, under the same torque, the 3space presentation of Aleph vortices might be a clockwise rotation while the 3space presentation of Beth vortices would be a counterclockwise rotation.

The adjacent 4space limits of displacement are imposed by the high speed advance of Daleth and pressures by the adjacent fluid layers. Additional torque or energy could be applied but the effect would be of more rapid rebounds not equivalent interface displacements. As energy become progressively more intense the amount of additional displacement allowed becomes progressively less. This causes higher energy rebounds to be more rapid so higher energy quasi photons should have more rapid cycles or frequencies and shorter wavelengths. Lower energy quasi photons would have slower cycles, lower frequencies and longer wavelengths. This is similar to what we have found in our universe.

The maximum allowed angle of 4space displacement about 3space could be expressed as some value of 2π (that is in radians) and in this way could be a constant somewhat similar to our Plank's length. I am also suggesting that layers within this region of the 5space hypersphere (which would include Aleph, Beth and Daleth) might have thicknesses that could be measured in terms of this tiny length.

The overall production of vortices imposed by available shear for quasi photons would determine quasi light's constant for speed.

The limits on displacements of the adjacent 4space interfaces would determine quasi light's frequency and wavelength



Another consequence of the limit on 4space displacement (quasi $h/2\pi$) is that confined quantities of energy too large to be accommodated by single flexes of the interface generate pulsations or tiny fluctuations within the region of maximum allowed displacement. This would be similar to the “chatter” displayed in other systems subjected to overload. These pulsations quickly develop into full fledged photonic structures with very high frequency involving both 4space interfaces. The original quantity of energy is thereby parsed through multiple flexes. Thus quasi $h/2\pi$ also indicates a specific quantity of energy or packet and in some cases this quantity could be used interchangeably with the constant. This energy and constant would also affect the other patterns of torque and shear such as quasi particles.

Another interpretation of the (quasi $h/2\pi$) length is that it reflects the average size of the shear vortices when created by a specific intensity of shear. I’ll pursue that possibility later,

The above describes only one of a number of polarized shear wave patterns within the quasi universe. Those that have intensity per unit volume too low to “bump” against the quasi Plank limit would not fragment to form quasi photons. These would be analogous to our radio waves or the fluctuations cause by uniform motion within orbitals.

Now I begin a picture of the early stages of the Quasi universe.

The first incursion of Daleth between Aleph and Beth is rapid and violent. Its column is substantial and contributes substantially to the diameter and circumference of the forming quasi universe. The twists around the future 3space would be extreme, past the point of the breaking waves and the temporary mixing of the fluids would form a region of bubbles between Aleph, Beth and adjacent layers. There is would be no order here. The 3space interface would be in disarray.

However there would come a time when the bubbles would collapse and Daleth’s advance would calm sufficiently to create maximum twists in the connecting 4space interfaces around the 3space interface without the breaking waves and churning. The 3space interface would now be well established but extremely turbulent.

In this segment of the quasi universal history, the extreme shear and the violent twist of 3space create dense vortex swarms which follow quasi universal twists. These twists are

intensified by the wakes generated by the vortices. Aleph and Daleth at Aleph vortices travel in one direction while Beth and Daleth at Beth vortices travel in the opposite direction.

So the picture is now one of vast, dense, turbulent streams of vortices held together by the extremely powerful cumulative wakes present in the twists created in the developing quasi universe and the vortex wakes. These streams meander throughout 3 and 4space interfaces creating an enormous web that follows the 3space interfaces that were present during the epoch of the bubbles. These interfaces have coalesced but the skeletal pattern of the bubbles remains as strands dense with vortices that border less dense regions. The turbulence within these streams and other energy configurations creates juxtapositions of vortices to allow internal resonances and the formation of cylindrical vortex swarms on both sides of each of the connecting 4spaces. These swarms in turn have the potential to share common torque patterns across the 3space interface such that they form conglomerates of swarms all anchored to the same place at the 3space interface. These new structures are particle-like in nature, some of which would be stable and others which would rapidly decay as their vortices were swept away by the backflow of Aleph and Beth.

Visualizing Quasi Photons

I need to return to the limited suggested description of quasi photons above.

As a refresher we will speculate as to what happens to a single tiny region of the 3space space interface. This tiny region responds to the constant shear of Daleth rubbing against Aleph and Beth by generating vortices for the most part with random 3space presentations. It polarizes with the other regions around it in response to large passing waves of torque by creating vortices with compatible 3space presentations. When the wave has passed it then returns to its random pattern.

However the tiny but intense waves generated by escaping vortices around Daleth_A or B swarms should make it behave in a slightly different way. These are the waves that are not reabsorbed by other regions of the swarm when the rebounds occur as vortices escape up the 4space interface. The reasons could be that there was not enough torque present in the regions of the swarm it passed through to encourage the establishment of relatively long lasting vortices or the direction of the wave takes it out of the swarm altogether.

Never the less the rebound has happened and this little bit of the interface has twisted to the maximum allowed and the little vortices that were created escape up a 4space interface causing the 3space interface to rebound with the opposite 3space presentation. The shear and the unwinding of the interface engender new vortices with the new 3space presentation. These vortices escape and new ones with the original 3space presentation could follow in the same manner. In this way this little bit of 3space emits vortices with opposite 3space presentations as different phases of the torque wave passes through. This effect is repeated all along the path followed by the wave. The picture here is that of a linear wave that has thick sheets of vortices with a consistent orientation escaping from it as it moves through space, similar to a zipper coming unzipped.

Another idea that needs to be added is that new vortices may shift in the direction of the wave's forward motion while it exists. This is not a major shift because the wave is traveling much faster than is allowed for the baby vortices. No vortex or vortex system can move faster than these quasi photonic waves and for the most part may travel considerably slower. So when that phase of the wave wherein the interface starts to unwind, reaches them, the tiny vortices

escape. New vortices with opposite 3space presentation are engendered by the ever present shear in their place. They too shifts with the wave.

A third idea to be considered is that when vortices escape the unwinding of the 3space torque it would be expected to allow the wave to spread. But this is prevented when the new compatible vortices move together and redirect the flow such that the wave is condensed. So the picture here is not just of a twisting and untwisting of 3space but of expansion and contraction of the associated wave.

Now allow a Daleth swarm in response to resonances with a core to experience a change in its velocity and to lose vortices up the 4space interfaces sequentially in such a manner as to form an escaping “wave train” with a specific frequency and wave length. As this wave train passes through other little regions of the sheared interface the rebound patterns would be repeated in each of these regions until the wave trains had passed.

Now allow the wave train to interact with a new Daleth swarm such that its angle of interaction coincides in some way with motion of the Daleth swarm’s torque. It engenders new vortices that become long term because they enter (or are created in) the region of high torque. Since these vortices don’t leave immediately there is no rebound. New long term vortices are also generated by the next segment of the wave train. Again there is no rebound. This pattern continues until the entire wave train has been absorbed. Since there are no rebounds we could say that the field has collapsed. The net result is that the swarm’s vortex population has increased and changed its torque, mass and velocity. This also creates a change in its orbital’s shape, orientation and size.

As suggested in the “Intro to quasi photonic patterns” the limit of allowed displacement of the connecting 4space interfaces could force extremely rapid rebound within higher energy photons and in the process force them to have high frequencies. These high frequency quasi photons with very short wavelength would be very energetic also because they could have many escaping vortices in a very short overall length of wave train. These should be created by Daleth swarms under extreme conditions with extreme velocities that are limited to short distances because they were in situations of high swarm concentration or pressure. As they are absorbed by other Daleth swarms nearby they would briefly accelerate that swarm only to be reemitted when it was forced to change velocity. This could go on until these quasi photons escaped the region of concentration. They could then travel some distance until they encountered a Daleth_A swarm that was placidly moving in an orbital associated with a core. When the quasi photon was absorbed by this swarm, the swarms surge torque might acquire so much energy that it could escape the influence of the waves of core torque and leave.

This would not be the case for quasi photons that were created by Daleth swarms under less extreme conditions that release photons in conjunction only with reestablishing their base state. Under these conditions the frequency emitted would reflect their changes in velocity and how rapidly these changes occurred (e.g. how many orbital transformations they needed to go through to reach a base state). These emitted frequencies would probably be lower than the excitation frequencies because the path to the base state could have pauses.

Daleth swarms could be in situations where they were associated with conglomerates in which members of each conglomerate have different base states and orbital sequences to those base states. When they all are “heated” they would emit a range of frequencies as let’s say quasi “white light”. Some of these quasi photons, while not as energetic as those above could be

absorbed by Daleth swarms of another resonant substance and reemitted as lower frequency quasi photons. Others could pass through unaffected. This second substance would appear to have the quasi color of the unabsorbed quasi photons.

So, one should be able to distinguish one substance from another by the frequencies absorbed when “white light” passes through them.

Quasi photons with lower frequencies could have insufficient energy to provide all of the vortices and energy for the jumps that force Daleth swarms to change orbitals but could cause the swarms to spend more time in one region of their orbital in such a manner as to nudge the swarms in one direction without actually changing orbitals. This would cause their cores to shift positions and follow. The cores would simply be responding to Daleth_A swarm’s new steady pattern of torque in contrast to a pattern previously produced. In this way whole systems could receive quasi inertial mass or momentum.

Likewise if a system is forced to decelerate, the change in torque could be reflected by the same loss of vortices described above and subsequent creation of low frequency wave trains.

The picture above needs to be amended to include the waves of polarized shear that accompanies quasi photons. These waves would spread out on all sides of the wave train and imitate the activity of the core vortices such that it might be impossible from within the 3space interface to distinguish the position of the core train from the polarized shear around it. This gives the originally described wave train an indefinite volume which might be rather large.

All quasi photons released or absorbed by Daleth swarms would involve the Daleth sides of both the Daleth/Aleph and the Daleth/Beth 4space interfaces.

A very energetic quasi photon could occur during annihilation of Daleth_A with Daleth_B swarms. These should have sufficient energy in the form of vortex volume to recreate Daleth_A Daleth_B swarm pairs under the right conditions. These quasi photons could also be created and interact in other ways but this mode of annihilation or creation reflects their capacity. (Gal-Yam, Avishay, “Super Supernovae” Scientific American, June 2012, Vol306, Number6, pp 44-49)

It also suggests ways in which high energy photons could become swarms and the potential for extremely complex and messy interactions in which extra swarms are unexpected byproducts. This suggests how high energy quasi light could become quasi matter and vice versa. They are simply variations of a single theme.

Individual vortices or wave trains on Aleph or Beth sides of the 4space interface should behave in a similar manner but they would be restricted in regards to their interactions. That is they would be unlikely to annihilate each other. This is because the Aleph/Beth interface keeps them within their quadrants. There is no equivalent barrier between Daleth_A and Daleth_B vortices. A quasi photon created by a Daleth_A swarm could interact with either Daleth_A or Daleth_B swarms. Whereas a quasi photon created by an Aleph swarm could react with Beth swarms only under special conditions. When Aleph or Beth photons do interact with quasi matter they could engender individual swarms in their quadrants that might even undergo consistent forms of decay.

A very special quasi photon should be created when conglomerates fuse, decay or collide. It should involve both sides of the Daleth/Aleph and Daleth/Beth 4space interfaces. This is because the swarms involved are rearranging their vortices on all sides of the interfaces. This raises the possibility of rotating wave trains that react with quasi matter (when they react at all) as determined by the phase of their rotation. These would behave similar to neutrinos in our

universe. For instance vortex concentration in the wave train could rotate:

With phases on either side of the Daleth/Beth interface
and then with phases on either side of the Daleth/Aleph interface
and then with phases on either side Daleth 4space interfaces and
then back to phases on either side of the Daleth/Beth interface and so on.

They could not form vortices at the Aleph/Beth interface because there is no shear there.

Aleph and Beth do not rub against each other.

They would rotate on an axis parallel to their direction. The direction of the rotational sequence would be determined by the structure of the swarm conglomerate that was changed. One direction of rotation would be “anti” to the other. For instance when the quasi weak force creates a Daleth_A swarm, it also creates a quasi antineutrino. If it creates a Daleth_B swarm, it also creates a quasi neutrino.

(see “The redistribution of Energy across interfaces” and “The limitations imposed by available shear result in quasi weak force” below).

One of these photons would be seen as in one rotation while coming toward the viewer and anti after it passes.

This multi interfacial rotating quasi photons would seldom interact with swarms because the timing of their rotational phase would seldom be resonant with the swarms they encounter.

However if they did interact, the byproducts would be determined by their phase.

If their phase was in Daleth_A & _B they might interact with Daleth_A and/or Daleth_B swarms.

If their phase was at either the Daleth/Aleph or the Daleth/Beth interface, they might interact with swarms at these interfaces.

Other quasi photons could also take on rotations. But they would occupy only one side of a single 3space interface. Regarding those that occur only on the Daleth interfaces, quasi birefringent materials and shallow reflections could isolate and “freeze” compatible orientations of rotating and nonrotating quasi photons. This quasi light could then be blocked or its orientation could be rotated by other quasi birefringent material.

Quasi Universal Conservation of Energy is Conservation of Torque

Within the quasi universe “conservation of energy” is actually conservation of the torque applied to the adjacent 4space interfaces which is maintained by shear vortices. This torque is transferred between quasi universal objects by quasi photonic structures, polarized shear and direct contacts that change the motions of objects.

The redistribution of Energy across interfaces

Below I suggest some of the reconfigurations of swarms that could occur in unstable quasi atoms and violent interactions. These reconfigurations can result in the loss of bound swarms and the creation of others, at times in unexpected places.

There is always some polarized shear on all sides of a 3space interface surrounded by torque. It is just more intense on the side(s) with established swarm cylinders. If for some reason cylinders become detached, the torque does not simply go away. New swarms and quasi photons can be created on the same or adjacent sides. New swarm conglomerates could even form if the residual torque is sufficiently intense. This way an unstable large swarm conglomerate could decay and in the process produce an extra Daleth_B swarm (quasi positron). This would be an example of common torque reestablishing energy around the 3space interface.

If there is sufficient energy and for some reason swarms are lost on one side of 3space, shear could initiate new swarm columns on any empty 3space side. The loss of swarms could be caused by unstable configurations or collision. The extra energy could be present because of velocity, unstable configuration or collision.

The very presence of large conglomerates with high mass from their many swarms blunts the advancing 3space interface. This and the extremely high energy torque should increase the probability of energy rearrangement among interfaces. Vortices that are lost on one side of the interface are replaced by vortices on other sides. This could also be enhanced by quasi photonic activity between member swarms.

This also suggests the possibilities of “anti” configurations.

The Trio_B swarm configuration with a Daleth_B swarm sharing their common torque is the predominant Trio configuration in the quasi universe because of the “advancing bubble” (see above) shape of Daleth. This does not eliminate the possibility of stable Trio_A configurations associated with Daleth_A swarms. It just makes them unlikely. But as suggested above large conglomerations could “blunt” this advancing bubble effect.

One of the ways “anti” configurations could be created could be if during a violent event, a Daleth_B swarm was detached and the extreme common torque still present created a new Daleth_A swarm on the Daleth_A side of the 3space interface. The new Trio_A would be the “anti” configuration to the original Trio_B. If it should contact another Trio_B, the Daleth_A/ Daleth_B interaction would annihilate them.

The limitations imposed by available shear result in quasi weak and quasi strong configurations.

Shear caused by the motion of Daleth against Beth and Aleph is the same everywhere. This causes the support for shear to be uniform throughout the 3 and 4space interfaces. This also suggests that swarm conglomerates would distribute this available shear fairly evenly among the individual swarms. That is a trio would have its shear and torque fairly evenly distributed among its three swarms and a quartet among its four swarms. However a quartet might have slightly more mass because four swarms would push the shear and torque to intensities that could barely be supported by available shear. This would make trios (quasi protons) more stable than quartets (quasi neutrons)

The only way swarms can experience increased shear is by traveling over fresh interface.

This motion allows torque that is greater than that which would be supported by the background alone. If they stop or slow down the higher torque must be dissipated to adjust for the lower shear. The swarm's internal quasi photons coming from the side opposite its primary torque can not seed new vortices in the primary torque region because there is insufficient shear to support them. They pass through the system and out onto unsaturated interface. This loss of energy forces complex swarms to reconfigure and the nearby background shear to create new swarms and/or photonic structures.

Ways in which this can happen:

1. The unstable swarm could fragment and give up resonant swarms that had been allowed by the lost torque. I will call this the **quasi weak reconfiguration**.
2. Share torque with a swarm that is pressing hard against it in such a way that both swarms share a region of common torque as described above. In this configuration they need fewer vortices and can be both supported by the available shear. I will call this the **quasi strong reconfiguration**. The lowered torque is also equal to less quasi mass so the combined swarms have less quasi mass than when they were separate. It would take enormous amounts of energy to separate these two swarms so lower numbers of swarms linked in the manner are very stable.

However there should be a limit as to how many swarms could link together in this way because of gravitational indentation. Once the limit is reached an additional swarm could still become caught within a well but it would not form a link with the swarms below it. It would be the first of a new linked layer. It would still be held within the well because it has the same 3space presentation and is traveling in the same direction so it moves as close as possible to the lower swarms.

The earlier interactions should be exothermic because the energy of their combining exceeds the original energy required to push the swarms together. The later interaction should be endothermic because there is no loss of energy by the new swarm. If additional swarms were captured, its linkage with them would be exothermic.

As swarms accumulate in this way they could become unstable because of the limited available background shear and/or irregularities in the shapes of the gravitational wells. It is possible that if conditions are right they could break up or rearrange through combinations of the quasi strong and the quasi weak interactions.

This could occur through several pathways:

The capture of Daleth_A swarms by the core,

the escape of entire configurations from the core to form smaller conglomerates,

freed fragments from the disruption conglomerates that create multiple swarms such as new Daleth_A and Daleth_B swarms

This last while being a relatively rare event would not be forbidden. It would actually involve the conversion of energy into new quasi matter. This new quasi matter would most likely be in the form of free Daleth_A or Daleth_B swarms because they involve only one side of 3space

I could use the quasi strong reconfiguration to build quasi universal elemental units (I will call them quasi nuclei) using combinations of Trio_B and Quartet swarms.

These quasi nuclei would have complex gravitational wells with complex regions of quasi gravitational overlap for any associated Daleth_A swarms. These regions when unfilled with would be indefinite in shape. But as they are filled by these Daleth_A swarms they would take on configuration allowed by stacking. Those regions of quasi gravitational overlap that are partially filled will take on an appropriate shape to allow irregular indefinite stacking. That is, this stacking of the Daleth_A swarms will be symmetrical but mobile in that they will be constantly changing or being rearranged. This motion will be resonant with the motion of the Trio_B core swarms at the bottom of the gravitational well. I will call the combined structures of quasi nuclei and Daleth_A swarms “quasi atoms” Those quasi atoms with equal numbers of Trio_B surges and Daleth_A swarms will have no predominant Aleph or Beth torque. That is the space around them will have the same numbers of torque waves of each species.

The mobile Daleth_A swarms will be able to interact with peripheral Daleth_A swarms of other quasi atoms. In fact they could leave their quasi atom to complete a region of quasi gravitational overlap around another quasi atom. This would create quasi atoms with predominant Aleph or Beth torque. I will call these quasi ions. [Expand](#)

Include the observation that the 3space presentation of swarms in these configurations conceals the overall structure which is that of flexible columns in the adjacent 4space interfaces anchored by common torques at 3space.

Daleth_A (quasi electron) capture

In the section entitled “Some Imagined Structures” I suggested a pattern in which Trio_B swarms could be combined with Quartets. I need to mention that this structure is actually more stable than then a combination of two Trio_B swarms. This is because Trio_B /Quartet combination is connected or enmeshed on all four sides of the Aleph/Daleth and Beth/Daleth interfaces. Two

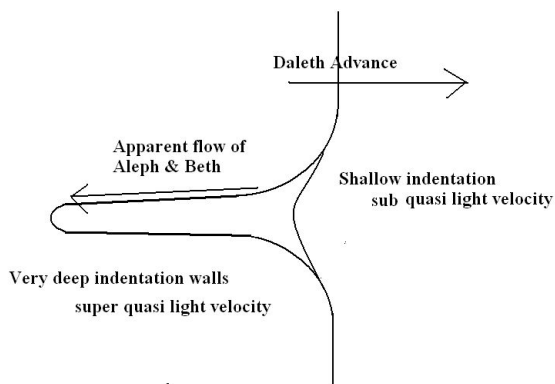
connected Trio swarms are anchored only on three sides. This suggests the idea that conglomerates are more stable if that have an ideal proportions of Trio swarms to Quartets which in turn raises the question as to how Quartets might be created.

Imagine a situation in which Trio_B and Daleth_A swarms are subjected to extreme heat and pressure, as in a quasi star. If two Trio_B swarm contact each other they might not have the ability to form a three sided anchor. But if a Daleth_A swarm receives sufficient energy from the pressure and heat to penetrate into the well shared by the two Trio_B swarms to a region that is substantially below the selective horizon it might start to share their common torque pattern and resonate between them. This new combination is now anchored on all sides and is much more stable. In the process the Daleth_A swarm must desert its original torque pattern which is also the source of its mass. The ever present background shear confiscates this torque creating new swarms and quasi photonic structures which escape. Once this happens the Daleth_A swarm is trapped because there is no torque outside the new structure to support it.

One quasi photonic structure likely to be produced is a quasi neutrino (or anti) described above. It would first have a form that could be associated Daleth_A but after traveling some distance would rotate and transform reflecting characteristics and possibly interactions of the other fluids and then transforming again back through Daleth and so on. I say “possible” interactions because its interaction with another object must coincide with the correct phase of its transformation and this is unlikely.

Quasi Black Holes

The intrusion of Daleth is faster than the speed of quasi light.



holes.

If 3space contours should take on vectors approaching to the direction of Daleth 's expansion any energy traveling along these contours must move against the apparent flow of Aleph and Beth .

If this flow is greater than quasi light's speed it could not escape this flow and would forever be swimming upstream.

I'm suggesting that these deeper indentations would not allow any quasi matter, light or other components of the quasi universe to escape from them and they would behave in much the same way as our black

Time and Contraction

Every thing in the quasi universe must adhere to the speed of wave propagation allowed by the sheared 3space interface. This includes the waves of polarized shear, quasi light and quasi matter. This limit determines both forms of spin of quasi matter. That is intrinsic spin will have a specific speed and orbital spin will have a specific speed.

I want to concentrate on orbital speed. Every swarm and swarm conglomerate should adhere to specific orbital speed. This could be influenced by its structure. That is orbital speeds of single swarms might be slightly different from Trios or Quartets and large conglomerates could complicate things further. But the speed within each should be constant. If the swarm is not moving, this speed would be the distance traveled as a swarm makes revolutions of its orbital in a unit of time. It is as if the orbital path of the swarm was stretched out into a straight line. It would be the speed along this line that is constant. So if a swarm rotates in place or is static, the number of orbital rotations is constant for an orbital of that size. Orbital that are larger would exhibit fewer revolutions and orbit that are smaller would have more revolutions but the “straight line distance would be the same. However if the swarm is moving, the distance traveled per unit of time must be removed from the number of orbital transits per unit of time. An extreme case would be that of a swarm moving at the permissible speed of propagation. In this case it would make no orbital transits. The rule seems to be that fewer orbital transits per unit time are produced, as a swarm’s speed across the 3space interface increases. If we view orbital revolutions as the ticks of a clock, this clock should slow down as the speed of a swarm and all its associated structures increases.

Much of the discussion above suggests that it is orbital revolutions that determine the various wavelengths and frequencies associated with swarms. If a swarm produces fewer orbital transits per unit time it will have a lower frequency. If all of the structures within a system operate with compatible wavelengths, as that system accelerates all wavelengths arising from orbital rotation should increase and all frequencies should become lower. This could very well slow down the activity between structures.

Contraction should occur when indentations changes shape to match the shapes of orbitals. Static swarm should have orbital revolutions that occupy all permissible planes at the interface. The first change in an orbital as a swarm accelerates is that it spends more and more time in orbital planes perpendicular to the direction of shift. This would be because its surge torque must face the direction of motion. It is the positions of the planes of a swarm’s orbital revolutions that determine whether it a disk or a sphere. If the revolutions are primarily in planes that are perpendicular to each other the indentation is spherical. As planes of rotation become more and more parallel, the indentation becomes oblate and finally a disk flattened in a plane perpendicular to the direction of acceleration.

The End

Everything within the quasi universe is derived from the advance of Daleth. This includes the vortices and swarms with their application of torque and drag on the advancing 3space interface. If one considers advancing Daleth to similar to our “dark energy” then quasi gravity is not an opposing force but is derived from it and could not exist without it. So I see the end of quasi universe in several forms.

One is a situation in which the reservoir of Daleth fluid is depleted and the advance of Daleth slows to a stop. Here there is no shear. Vortex formation ceases, remaining vortices and torque escape up the adjacent 4space interfaces and 3space becomes perfectly uniform. Even quasi light and other radiation can not continue because they are dependent on the formation of polarized shear which no longer is present. Quasi matter is gone for similar reasons. The whole quasi universe becomes simply a humongous inactive bubble. There would be no events to compare with each other, no waves, no interaction and as far as the quasi universe is concerned no time. This strongly suggests within the quasi universe at least that time can not be equated with space when space is described as interfacial.

There is apparently no situation in which quasi dark energy can simply overcome quasi gravity because both originate from the intrusive advance of Daleth. There will always be quasi dark energy as long as Daleth advances. There will always be quasi gravity as long as this advance produces shear. However if for any reason there is no longer any shear, then vortices and their associated indentations would disappear. This suggests other possibilities.

It is unlikely that Daleth’s intrusion should remain uniform everywhere as the 3space interface grows. Therefore it is to be expected that eventually there would be regions that at first lag behind the general advance and then develop huge macro indentations in which the backflow of Aleph and Beth begin to push objects along the 3space interface towards their centers. This effect would be similar to what is seen as the “great attractor” in our universe. These macro indentations could become virtual wells as the quasi universe ages and as the disparity increases between them and the rest of the quasi universe.

This raises the possibility that what was originally a uniform circumference could become fingerlike projections with portions of the quasi universe becoming separated from each other. If any of these projections should become separated from the general intrusion they would cease to expand. In this case they would no longer produce shear and all of the structures allowed by shear would cease to exist. The vortices and torque associated with them would escape along the connecting 4space interfaces. There would be no quasi gravity. They also would become smaller but still humongous static inactive bubbles.

Another possibility of demise is if Daleth encompasses the whole hyper sphere. In this situation the interface would begin to shrink as it passes the circumference of the mother hyper sphere. Its collapse is not due to gravity but the geometry of the situation. As it approaches and passes the mother’s circumference, the forces that generate shear might actually decrease and ultimately reverse, destroying all structures dependant upon the original shear. The new shear in the opposite direction may not be sufficiently intense to establish new structures. The quasi universe becomes filled with increasingly chaotic shear that escape up the connecting 4space

interfaces as it shrinks to nonexistence on the other side.

Others players may find other scenarios.

Perspective

An occupant of the quasi universe sits down to watch a quasi sunrise, while he drinks his quasi coffee. He picks up his cup and as it travels ten centimeters toward his mouth, Daleth carries him and his universe over 2400000 meters on its intrusive path. The number of vortices generated by the omnipresent shear and the torque patterns of his cup outnumber the stars in quasi universe. They stream behind the 3space interface for many meters along the adjacent 4space interfaces.

Allow that all events are infinitely more rapid within 5space just as Daleth's intrusion is much more rapid than anything allowed in the quasi universe. Allow that these infinitely rapid reaction times of the 5space units of matter and life engender species and civilizations in increments of time smaller than the occupants of the quasi universe could ever imagine.

An intelligent 5 space species on the mother hypersphere might see the intrusion of Daleth and the motion of the cup as occurring over a hyper geologic time that spans many generations. Right now neither has capabilities to measure or detect the other, maybe later.

Life at the plane

Abbot's views about the lives of people in "Flatland" are fascinating and perceptive but he and apparently most other authors on this subject, have omitted one significant detail.

What conditions could allow flatlander existence ?

One suggestion follows.

Flatlanders are not really flat at all. They are three dimensional. They just don't realize it. They live at the interface of two fluids similar to oil and water. There are matter/energy configurations above the surface called *supertrons* and matter/energy configurations below the surface are called *subtrons*.

The supertrons occur in families with specific characteristics and there are many types of supertron families.

Subtrons have the ability to interact or "bond" with one or more supertron families across the flatland surface. They bind together the many supertron configurations to form an infinite variety of flatland substances but these configurations have only two degrees of freedom. And so there evolved flatland life, flatland intelligence, flatland culture and flatland science.

All of their evolved senses and perceptions concern only flatland matter and energy. They are unaware of higher dimensions.

Once a "do gooder" cubelander tried to lift one of these flatlanders off the surface to "enlighten" him, but the flatlander was destroyed, because his subtrons were left behind and his supertrons dispersed.

The 3spacer finally lifted a flatlander by taking a substantial part of the flatlander universe with him. "Enlightenment" did not happen. The flatlander was still unaware of higher dimensions. He only perceived that his universe had become smaller.

A famous flatlander scientist once stated that if there were higher dimensions, flatland smoke released in a sealed room would move out of them, but it doesn't. He therefore proposed that higher dimensions either did not exist or they were rolled up into a ball. He was unaware that the subtrons and supertrons that made up the flatland smoke were positioned on either side of his plane when viewed from 3space and had only two degrees of freedom. The smoke was confined by the very configurations that allowed it to exist.

This little story is only a 2-3space analogy. It does not truly reflect the quasi universe yet to be described. It is presented only to suggest that there may be objects that are confined to a space because their very existence is dependent upon activity on "all" sides of that space. The need for the word "all" will become apparent later.

Life at the volume

What conditions could allow cubelanders existence ?

One suggestion follows.

Cubelanders are not really 3spaced at all. They are five dimensional. They just don't realize it. They live at the interface of three fluids similar to oil, mercury and water. There are matter/energy configurations around the 3space called *quasi protons*, *quasi neutrons* (or *quasi nucleons*) and matter/energy configurations confined to the hypervolume on one side of the 3space called *quasi electrons*.

The *quasi nucleons* occur in families called *quasi atoms* with specific characteristics. There are many types of *quasi atomic* families.

The *quasi electrons* have the ability to "bond" with one or more quasi atomic families around the 3space interface. They bind together the many *quasi atomic* configurations to form an infinite variety of cube land substances, and so there evolved cube land life, cube land intelligence, cube land culture and cube land science.

All of their evolved senses and perceptions concern only cube land matter and energy. They are unaware of higher dimensions.

Once a "do-gooder" 5spacer tried to move one of these cubelander away from the 3space interface to "enlighten" him , but the cubelander was destroyed, because his *quasi electrons* were left behind and his *quasi nucleons* disintegrated.

The 5spacer finally moved a cubelander by taking a substantial part of the quasi universe with him. "Enlightenment" did not happen. The cubelander was still unaware of higher dimensions. He only perceived that his universe had become much smaller.

A famous cubelander scientist once stated that if there were higher dimensions, cubelander smoke released in a sealed room would move out of them, but it doesn't. He therefore proposed that higher dimensions either did not exist or they were rolled up into a ball. He was unaware that the *quasi electrons* and *quasi nucleons* that made up the cubeland smoke were positioned on all sides of his 3space when viewed from 5space. The smoke was confined by the very configurations that allowed it to exist.