

**THE ORIGIN OF MATTER PART II  
THE FUNDAMENTAL BUILDING BLOCK - THE PHOTON**

JOHN R. MCWHINNIE

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ABSTRACT. This paper follows on from my paper entitled "The Origin of Matter". The two papers should be taken as one and thus this paper takes off where the other finished. In this paper we shall lay down the processes and the particles that lead to complex sub-atomic structures/particles.

### 1. SYNOPSIS

The starting point of this paper shall be the Quark particle that current theory predicts is the fundamental? (as far is presently known) building block of the PROTON and Hadrons in general, We shall challenge this view after giving a brief overview of the current accepted theory of the Quark as it refers to the Proton in the Standard model. After which we shall present our alternative theory which states that it is PHOTONS that are the fundamental blocks of the PROTON. It is probably a good time to remind the reader that the theory of the Quark is just that a theory as there is very little experimental evidence of their existence due to the fact that they are very tightly bonded ( a question AS TO WHY that cannot be answered) and , as to date none have been detected freely in order to examine them closer.

### 2. THE QUARK - THE BUILDING BLOCK OF THE PROTON

Current theory has led us to the conclusion that the Proton is not a particle on its own but is structured from smaller particles that we have called quarks.

This conclusion came about by collider experiments above the 10MeV range which has led to most physicists to conclude from these experiments that the quarks definitely are the building blocks of the proton and definitely exist - well most of them are in agreement but as yet no real proof exists.. The only proof that exists is from collider experiments - basically bouncing a ball of a target and repeatedly recording the recoil to build up a picture of that target. In this case the target is Hydrogen, which as we all know is made up of protons and a smaller sub atomic particle such as an electron or similar shall be used as the bullet. By repeatedly doing these experiments and analyzing data such as the recoil, the angle , energy etc an image of the target proton can be built up. But one should be careful when taking such data as there is part subjective interpretation in analyzing the outcome though they are in the main reliable. Its evidence but circumstantial at best though it is the best we have at the moment and we , the tax payer, have sunk billions of dollars into Cern and such Large Hadron Colliders, to the detriment of many other areas of worthwhile physics. At the moment at the new Large Hadron Collider the search for the Saviourparticle the, Higgs Boson, is commencing. If it is not found then the Standard Model shall fall. Imagine the pressure the physicists are under during this search. I personally predict it will not be found as I do not believe in the Standard Model and especially its theory of Mass creation on which the Higgs Boson relies.

As the interpretation proposes a model of the PROTON that is constructed of ,(yet to be completely verified ) particles called quarks. It is believed (from collider experiments) that baryons (fermions) are built primarily of three quarks and mesons from a quark (q) and an anti-quark (-q).

In order to describe presently known baryons and mesons five quarks and the corresponding anti-quark which are required (though only five of the quarks have in fact been detected at all). the table below shows the current quark status and most of their properties which are numerous and have grown considerably as the hunt

for the Quark has progressed.

In the table below is shown known baryons and mesons. According to theory in order to build these particles 6 quarks are needed, one of them being an anti-quark.

Also in the table we have again shown the Leptons so as to show more clearly the striking grouping similarities in two otherwise, what seem two very different sets of particles.

Leptons		Quarks					
generation		charge	Mass		charge	mass	
family		(e)	(MeV/c <sup>2</sup> )	flavor	(e)	(MeV/c <sup>2</sup> )	colour
<b>First</b>	<b>Ve</b>	<b>0</b>	<b>0?</b>	<b>u up</b>	<b>2/3</b>	<b>(5)</b>	<b>r.g.b</b>
—	<b>e</b>	<b>-1</b>	<b>0.51</b>	<b>d down</b>	<b>-1/3</b>	<b>(9)</b>	<b>r.g.b</b>
<b>second</b>	<b>Vu</b>	<b>0</b>	<b>0?</b>	<b>c charmed</b>	<b>2/3</b>	<b>(1300)</b>	<b>r.g.b</b>
—	<b>u</b>	<b>-1</b>	<b>106</b>	<b>s strange</b>	<b>-1/3</b>	<b>180</b>	<b>r.g.b</b>
<b>second</b>	<b>Vt</b>	<b>0</b>	<b>0?</b>	<b>t top</b>	<b>2/3</b>	<b>(?)</b>	
—	<b>t</b>	<b>-1</b>	<b>1782</b>	<b>b bottom</b>	<b>-1/3</b>	<b>4000</b>	<b>r.g.b</b>

Obviously these similarities must mean that there is something fundamental and similar about their internal structures. Are we actually looking at some fundamental particle that somehow can create all these different types and classes of particles. The answer would seem to be yes, but what it is no-one, as yet, has put forward an all encompassing theory that could be viable for all sets of particles, not yet..

### 3. QUARK CURRENT PROPERTIES

Probably the first thing that you will notice are the bizarre names that have been given to the quark -up, down, charmed, strange, top and bottom. or u,d,c,s,t,b. These have no meaning or association they were just names picked at the time with someone with a sense of humor. the main parameters that have great significance are CHARGE, MASS, FLAVOUR AND COLOUR. we shall present the current thinking about these parameters and then go on to explain how our theory interprets them. The point here is not to go deeply into Quark theory but to present enough so that the reader has sufficient background to understand the new picture of reality that we shall present.

Leptons and Quarks are fermions and therefore all these particles have

$$(3.1) \quad \frac{1}{2}$$

spin and from the first paper we have proposed that this means a quantum spin about a fourth dimensional axis we termed the M Axis. Though the eye catching property that immediately gets ones attention is the electric charge, (charge with reference to EMR).

With these charges it is easy to see that the fundamental equation:- can be satisfied.

#### 4. QUARK EQUATIONS FOR BARYONS AND MESONS.

$$(4.1) \quad \text{baryon} = (qqq)\text{meson} = (q \bar{q})$$

#### 5. ELECTRIC CHARGE FOR THE HADRON

$$(5.1) \quad \text{charge} \frac{2}{3}e$$

$$(5.2) \quad -\frac{1}{3}e$$

Also , again With these charges it is easy to see that the charge give the correct charge for the

$$(5.3) \quad \begin{aligned} \text{PROTON (uud)} &= \\ \frac{2}{3} + \frac{2}{3} - \frac{1}{3} &= 1 \end{aligned}$$

$$(5.3) \quad \begin{aligned} \text{NEUTRON(udd)} &= \\ \frac{2}{3} - \frac{1}{3} - \frac{1}{3} &= 0 \end{aligned}$$

Though of course the doubt still lingers since no free quark has been found and the mass values in the table have ALL been calculated from experimentation. At the moment their is NO theory that can successfully account for why particles have the masses they have.

#### 6. TASTE AND COLOUR

These quarks also exhibit other characteristic FLAVOUR and COLOUR. They have nothing to do with taste or vision. Flavor denotes the type of Quark (u,d,s..) -Colour refers to the interaction with the Hadronic Field of force charge just as the electric charge characterizes the strength of the interaction with an electromagnetic field of force..There is much more to be told about the Quark but it is not necessary that we go into this completely, to do so would probably involve a major part of physics as quarks seem to have their hand in many pies and we would end up going into the detail and explaining the four basic forces of nature.

The Electromagnetic force  
The Strong Nuclear force  
The Weak Nuclear force  
the Gravitational force

7. CONTINUATION OF THE THEORY

Be warned those quick to judgment as (ONE OF )the ultimate goals of this set of papers (yes there may be more ) is to prove that the Four Forces of nature referred to are actually the same force and are indeed capable of "acting at a distance" depending on certain definitions .

The major goal though remains what the title says "What causes mass" This set of papers will mostly be argument using logic and thinking but I will follow up with a final paper which will be mostly Mathematics which I am working on in parallel but will be released last.

As we all know One of the main corner stones of Theoretical Physics today , is that "no force acts at a distance" and all forces have force carrier particles. They have all been identified and are listed in the following table. The only force carrier particle that has not been identified is the one for Gravity. This is quite curious as you will see as we believe that the FORCE OF GRAVITY DOES ACT AT A DISTANCE and DOES NOT HAVE A FORCE CARRIER.

We also believe that Gravity is the basic force that all forces actually are just different manifestations off.

Before going on I would like to define gravity in simple English.

Gravity is an attraction between 2 or more regions of space where the fabrics of space have different densities. The fabric of space can be crushed or stretched just like any other material. This will cause attractions as the natural state of the fabric of space is flat. But in a universe filled with celestial bodies - the sun , planets etc, space is continually being warped in various ways. Also the more the warping the greater the force just as the gravitational field round the Sun is far Greater than the Earths - the higher the density of the mass causing the warped space the higher the gravity field. Maybe that is why a force carrier particle has not been found as it does not exist as one cannot get anything more fundamental than the Fabric of Space itself.

This table shows the state of our understanding at the moment we leave it in for completeness and wish to have a separate paper on the 4 forces sometime later.

Field	Quanta	Mass	Spin	Charge
EMR	Photon	0	1	0
Hadronic	Gluon	0	1	8 colours
Weak	W+-	81GeV/cm2	1	+e
	Zo	91GeV/cm2	1	0
gravitational	Graviton?	0	2	0

8. FORCE ACTING AT A DISTANCE

Force acts at a distance quite simply because the very fabric of Space can be charged and therefore it can cause forces of repulsion and attraction, theoretically over any distance. This should not be surprising as the squeezing and stretching of Space Fabric is happening all around , causing such forces at a distance to come into play.

9. HADRONIC PARTICLES

If you lived on an island where the only material was trees , what would you build your house out of ?

If there was a universe with no particles but filled with the Fabric of Space and lots of ripples in that fabric (radiation) , including photons, what would you build your universe from?

Photons carry no charge and have generally been thought of as having little interaction with each other(except pair production under special circumstances). We propose that they are interactive with each other and put forward the following process as to how this inter photonic reactivity is achieved in a particle with no mass. It just did not seem right that such a fundamental particle as the Photon - The most Fundamental Particle that we know was taking no part in the play of the universe. Here is the method of Photonic Reactiveness:The first diagram shows the fundamental process and the second diagram shows the details. The diagram is self explanatory. A photon traveling through the very fabric of space,( in fact it is the fabric of space ), shall create in the direction of travel an area where the fabric of space becomes denser or (+) positively charged. Behind it the reverse is happening and the space fabric becomes less dense or (-) negatively charged. Therefore the photon itself is not charged but it is surrounded by a charged field.

This carries on from the first paper where we came to the conclusion that density of space is the root cause of charge, normally its part of the particle , giving the particle charge but this is a unique situation where its the space in front and behind the particle that becomes +ve and -vely charged allowing the particles through this process to attract and join with each other.

#### 10. THE FUNDAMENTAL PARTICLE

The second diagram shows in more detail a process for photons to create a spinning triangle of photons, This will spin radially and over its center thus causing a spherical particle - made of the most basic and Fundamental of sub atomic particles - the photon, thus giving the Photon the importance that it always had but we were just too blind to see it . We shall name this particle the F particle (F for fundamental).

The second diagram shows the photons as particles surrounded by + and - charged space being attracted to each other.

Next they must change into their wave manifestation so that they can actually join wave-ends. **THIS IS THE REASON FOR WAVE/PARTICLE DUALITY.**

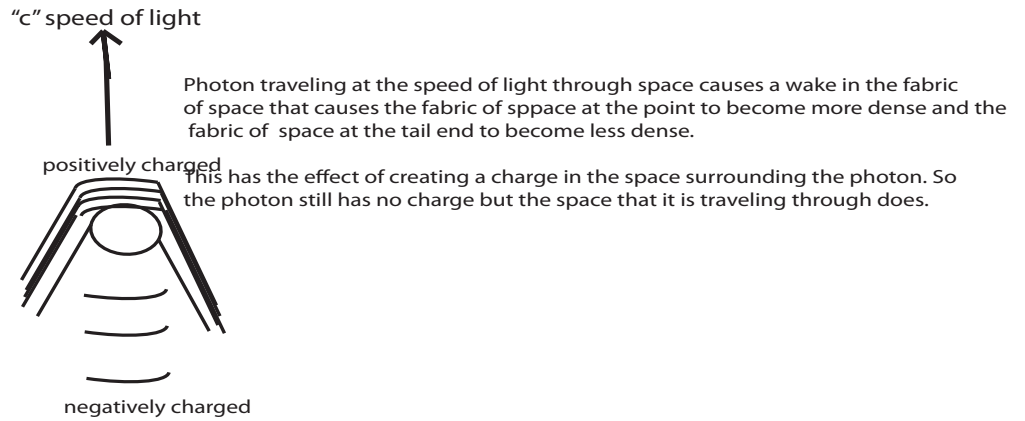
Third you see them joined and after spinning at the speed of light a wall, a perfect sphere of space fabric is created and a new particle is born.

This wall is created by the force of the spinning photons causing the fabric of space to be thrown outward by centripetal forces. **THE RESULT** - a new particle containing three Photons spinning at the speed of light. These can then be used to build more complex structures.

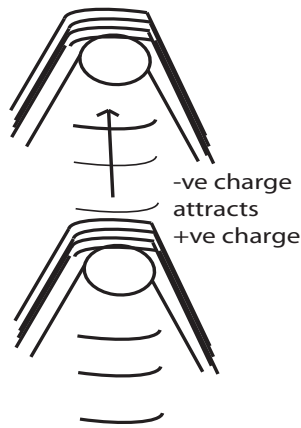
#### 11. PHOTONIC REACTIVENESS



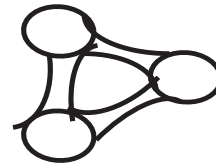
THE ORIGIN OF MATTER PART II THE FUNDAMENTAL BUILDING BLOCK - THE PHOTON



This would not be detected by any detectors as the photon is still without charge. This effect I have termed Endianess and its great importance shall be demonstrated



This effect, the endianess causes photons to attract each other if they are in the correct orientation in space.



First 2 photons attract and form a pair and then a second can be attracted to form the most stable of shapes - a triangle of photons spinning at the speed of light. This, we believe is the fundamental building block of ALL sub-atomic particles

FIGURE 1. Photon traveling so fast (speed of light) they create a charged region in the fabric of Space itself This causes the photons to self attract under the correct conditions.

12. FUNDAMENTAL PARTICLE PROPERTIES

First of all , some definitions:-

Particles spinning clockwise are taken as +ve.

Particles spinning anti-clockwise are taken as -ve.

First of all we should remind the reader that what follows is by no means the whole story as we are analysing Fundamental particles with only perpendicular angular spin and also particles with a three photon triangle. There are probably

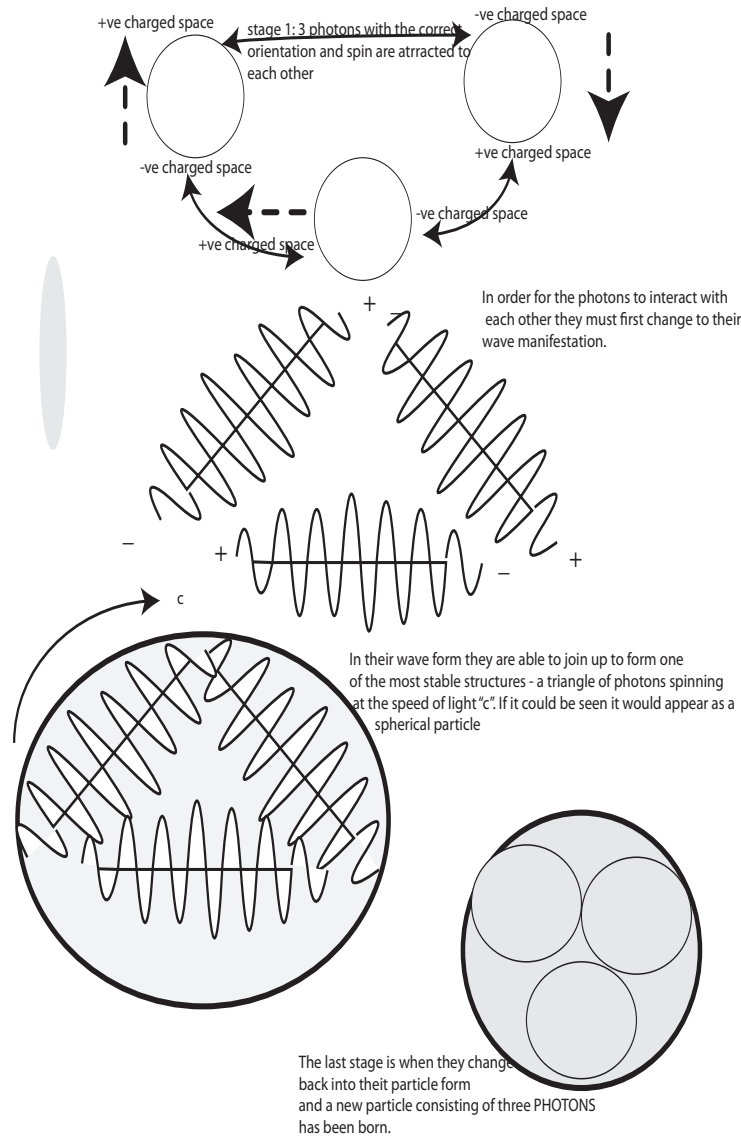


FIGURE 2. Photon traveling so fast (speed of light) they create a charged region in the fabric of Space itself This causes the photons to self attract under the correct conditions and the most stable shape with the lowest energy is the triangle, but it is by no means the only configuration possible

limitless combinations with more photons and a maybe few hundred that are feasible.

This the truth table for three (as collider experimentation has revealed there to be three particles at the heart of proton, spinning particles ,each one made up of 3 spinning photons. There are 8 different combinations in the truth table one could actually argue that some of the combinations are actually the same particle just

taken from a different perspective , Particle 1 and 8 for example but there are also many other ways to create particles with different combinations ,as mentioned before with the angular spin etc. so we shall leave it at 8 to keep it simple for the time being

The properties of the F particles will vary as a result of the kind of , and number of Hadronic interactions and also the electric charge in each particle.

+	+	+
+	+	-
+	-	+
+	-	-
-	+	+
-	+	-
-	-	+
-	-	-

### 13. PHOTON PARTICLE FEASIBILITY

We shall take some examples from the truth table to determine the feasibility (NOT THE STABILITY) or not of the particle combination as to analyze them all would take too much time and is not really necessary. Starting at the beginning with three +ve particles. The easiest way to do this is graphically. We can analyze the following diagram.

#### 14. THE FPARTICLE THREE COMBINATION

When examining the three Fparticles that are positively charged and the mechanics of attempting to join such particles. take a look at the following diagram. and remember Particles spinning clockwise are taken as +ve. Particles spinning anti-clockwise are taken as -ve.

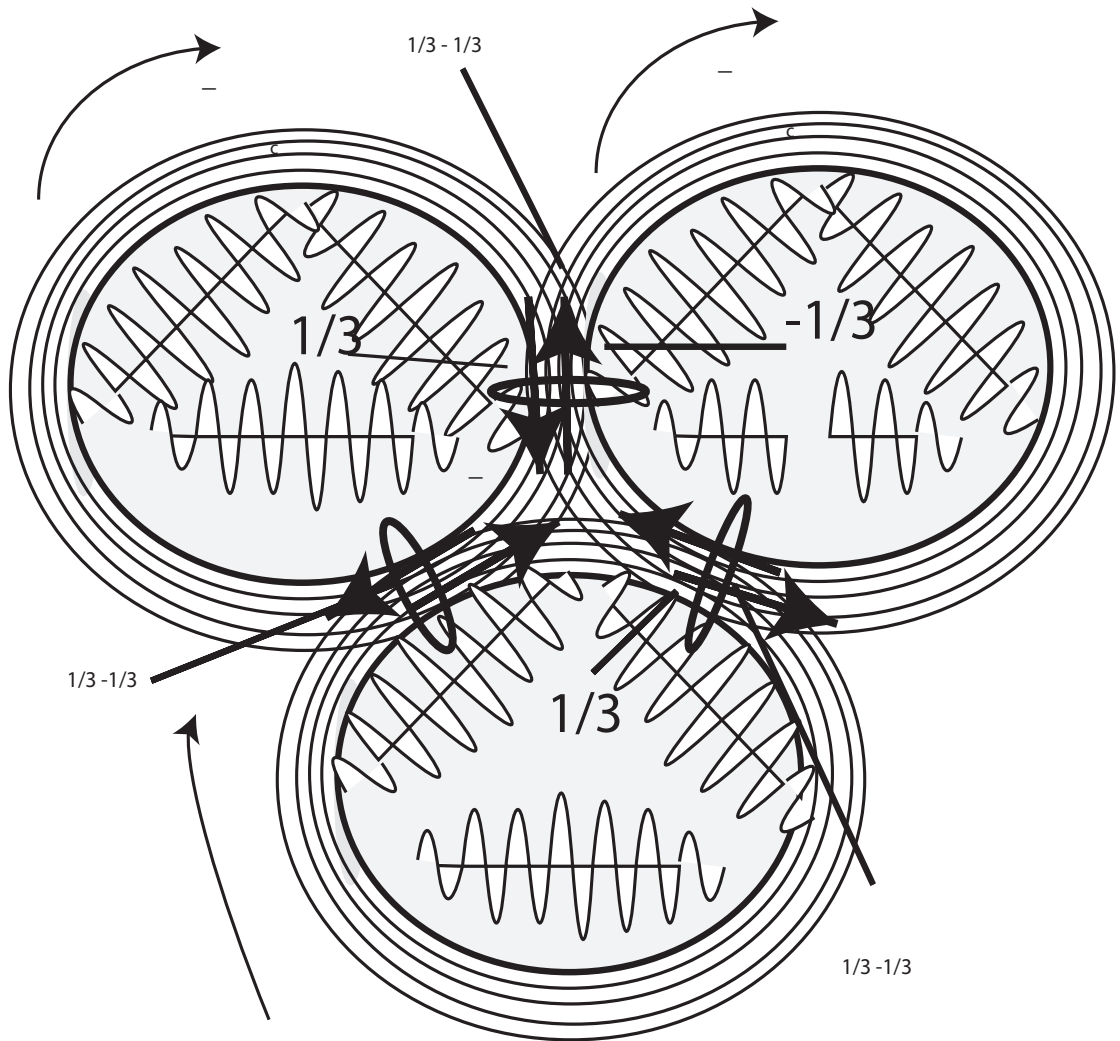
We shall take from each Hadronic interaction that each one contributes a third of a charge as this seems to be the evidence accrued from collider experimentation. Also in this scenario we shall take positive , clockwise particles as having ( or actually creating ) positive electric charges and anti-clockwise as having ( creating ) negative electric charges. So all the particles in this scenario are spinning clockwise.

14.1. + + +. In the diagram the area of Hadronic Gravity surrounding each Fparticle has been drawn out of scale , its much thicker only to see what is happening better. Because of the +++ makeup of the particles when they come into contact with each other at the three main points marked on the diagram (forgetting the centre for the time being) what we have to try to imagine is what would happen. What we have is Hadronic Gravity spinning at just sub light speed crashing into each other. We are not dealing with radiation here, there is no chance of wave destructive or creative interference as this is not a wave, its a region of high density space fabric . When particles in this configuration meet the only possible outcome is that the two gravity points join together in a frenzied and unpredictable way in order to make an even denser Hadronic Gravity lock. This would be by no means a stable area. It would be in constant motion of repulsion and attraction but if in balance as in the Proton, bound together extremely strongly by the very dense Hadronic space they share. Also there is the electric charge. The particle as it is spinning shall create a magnetic moment perpendicular to the direction of spin and an electric charge orthogonal to the magnetic moment. Though in this particle all the charges cancel each other out and it is electrically neutral - another explanation for a neutron - please see the following diagram.

**14.2. Diagram of Proton constructed of Three Fparticles and the ElectroWeak Force.** Make no doubts about it I am claiming here that this is how NEUTRONS, PROTONS and all Hadronic Nuclei are constructed and QUARKS do not exist.

#### 15. THREE MARBLES IN A RUBBER SACK

Many physicists working on the proton have remarked that it is by no means a spherical object. Many of them have used the analogy of putting three marbles in a rubber sack. The three marbles being in constant motion sometimes stretching the walls of the rubber container and then doing the reverse. Now one can see why this would be the case. The F particles here ,though, highly bonded because of the head on crash of opposing Hadronic gravity fields would exhibit something exactly like that - three marbles in a rubber sack constantly repulsing and attracting but never escaping. This is good anecdotal evidence that we are on the right track and all these small pieces of evidence start to add up to give one just a little more confidence in the theory.



This diagram of three F particles in clockwise positive rotation shows that each bond is electrically neutral as a  $1/3$  and a  $-1/3$  contribution is received from each F particle at each coupling zone making the particle charge 0;

FIGURE 3. This diagram shows the first example in the truth table with all F particles being positive and spinning clockwise.

Now it even becomes obvious why the constituent particles (QUARKS?) have never been found free as to free them the only method available - powerful collider will just produce photons flying off in various directions which are probably not detected as, remember they are completely neutral. It would be good to analyze each combination in the truth table to try to determine at least if the combinations could work and join to form a hadronic particle but this would require a separate paper so we shall limit ourselves to some important examples. The following diagrams have been composed with this in mind. Just a mention to the colour theory that is the equivalent Hadronic force - I started to study it but

Diagram showing the Hardron composed of three F particles generating its own electric force giving it its electric charge - in this case  $1e$  as it is a proton.

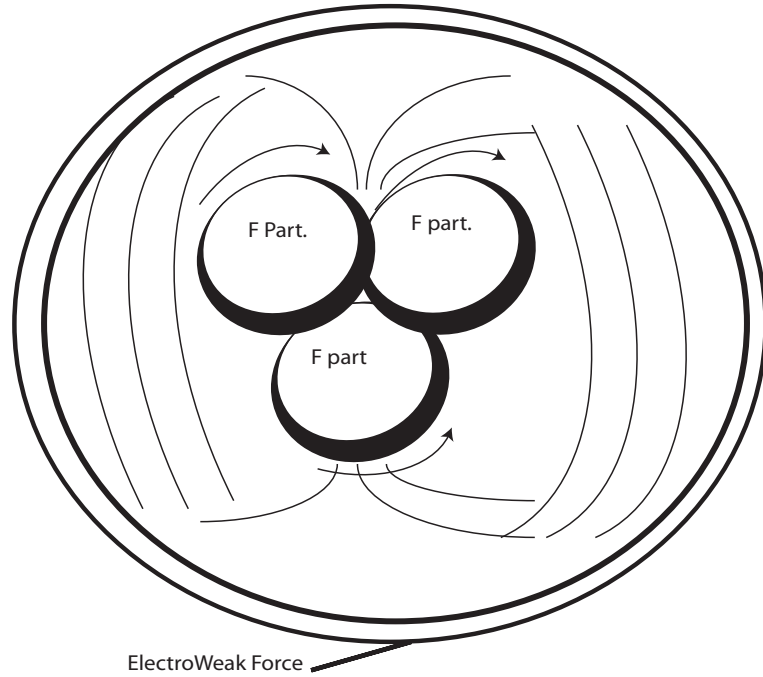


FIGURE 4. The three spinning F particles create their own electro-weak component for the Proton.

to me , at least, it was so obviously wrong , it seemed that from little evidence a large complex theory had been plucked out of the air so I will keep comparison to a minimum using any of the evidence which these particular paths through up , I may just mention it in passing.

The three circles in the diagram would be referred to as coupling forces as indeed that is what they are. The problem that QCD has as I see it is that has no fundamental bedrock of a theory to guide it when , for instance, attempting to do what we are about to do. Derive all the different particle variations. This theory is much simpler and this always gives one confidence when the theory starts to take on a life of its own - all you can do is hang on for the ride. What QCD has done has created colour changing forces simply as and when required. But why do they suddenly change ? what are the mechanisms behind them ? and a host of other unanswered questions.

#### 16. THE VARIATION DERIVED FROM THE TRUTH TABLE

Here is the truth table again and this time we shall look at the combinations most likely to form a proton.

+	+	+
+	+	-
+	-	+
+	-	-
-	+	+
-	+	-
-	-	+
-	-	-

in the truth table and our next candidate to satisfy the main equation:

$$(16.1) \quad \text{PROTON (uud)} = \frac{2}{3} + \frac{2}{3} - \frac{1}{3} = 1$$

I have created an Appendix A that shows graphically all the different combinations in the truth table and can be found at the end of the document. Also I have already analyzed the different F particle combinations and the most curious discovery is that (taking the individual charges for quarks) (electromagnetic/electroweak charges) that ALL the combinations will produce the correct charge for the proton except the first and the last. This also answers another question - Why The Abundance of Protons in the universe as compared to all the other (and there are many) hadron combinations. Again some more evidence that the theory is on the right track. It is starting to give answers to questions that I had not even thought about. I would hazard a conjecture that the other Hadrons come into existence only through certain uncommon conditions, referring to all the possible variable parameters that exist nad the forces produced are of an unbalanced nature causing them to be unstable.. We have not gone so deeply into theses in such a short paper that is mainly designed to give an overview and just as much detail as is necessary. Indeed any combination of positive and negative produce the correct charge of positive 1 in the examples used in this paper from the truth table. The second example in the truth table is + + -.

So we have our 6 candidates to replace the quark the thoretical particle and it is indeed unique. Three particles bonded together by what I have named Hadronic Gravity , each with three photons spinning at the speed of light at the centre. The properties of such a particle would also be unique just as has been found during the quark search. The next diagram of three F particles takes number two on the list and demonstrates that the charge is Proton equivalent,

**16.1. Diagram of Proton constructed of Three Fparticles.** One final drawing of the particle shows it altogether spinning in unison - creating its own electromagnetic shell or as some would say the electroweak force.

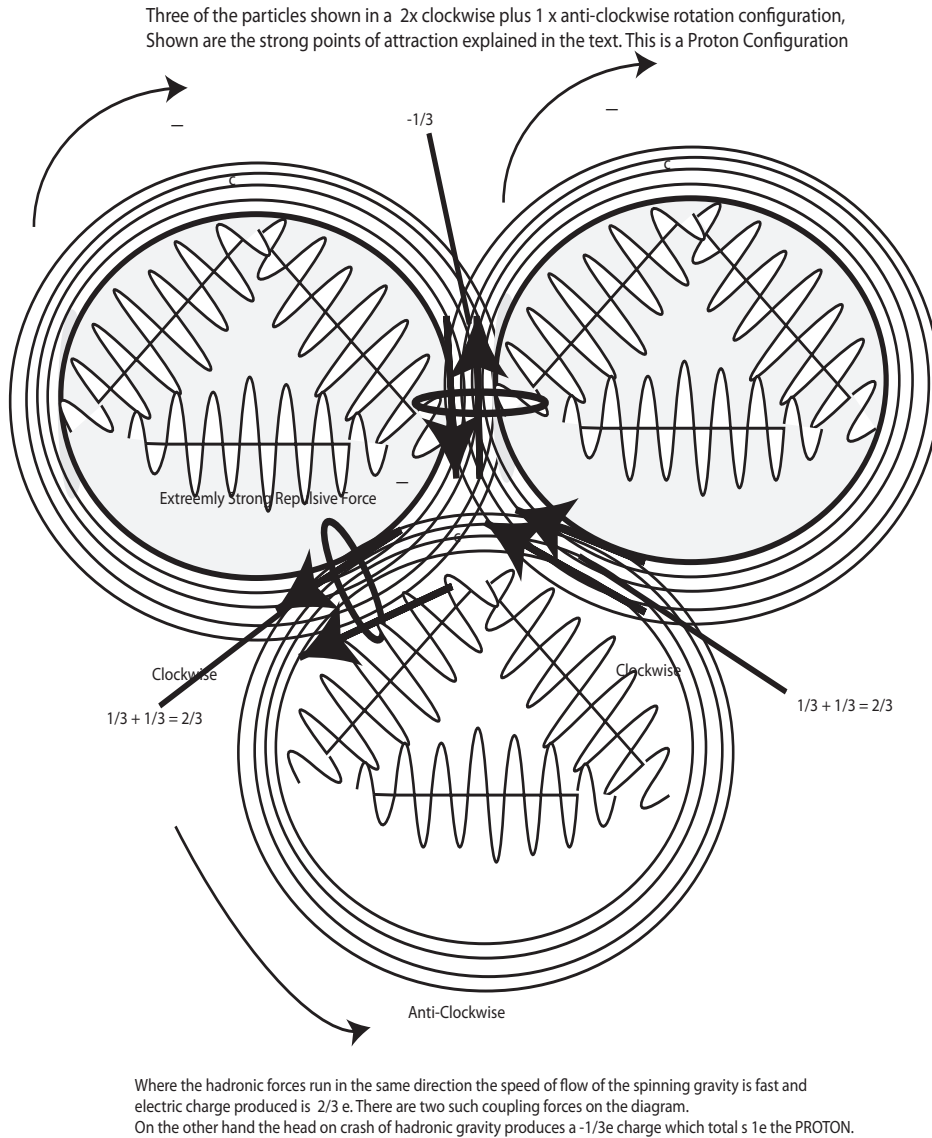


FIGURE 5. The three spinning F particles create their own electroweak component for the Proton.

## 17. QUARKS VS THE FUNDAMENTAL PARTICLE THEORY

Anyone who goes deeply into the Quark based theory can only come to one conclusion - it is questionable at best. If it had not come from "respectable" sources it may not have been taken as seriously as it has and it would have been classified as tentative.. As you study it it is so obvious that it is a patchwork of questionable ideas that seem hard to believe. It answers none of the important questions , it only serves to make the whole subject much more complex than it should be. Quantum physics is poetry by comparison and after getting half way



Three particle clockwise X 3 showing the spin and the hadronic attachment forces that make the nucleus so stable i.e. hard to pull apart.

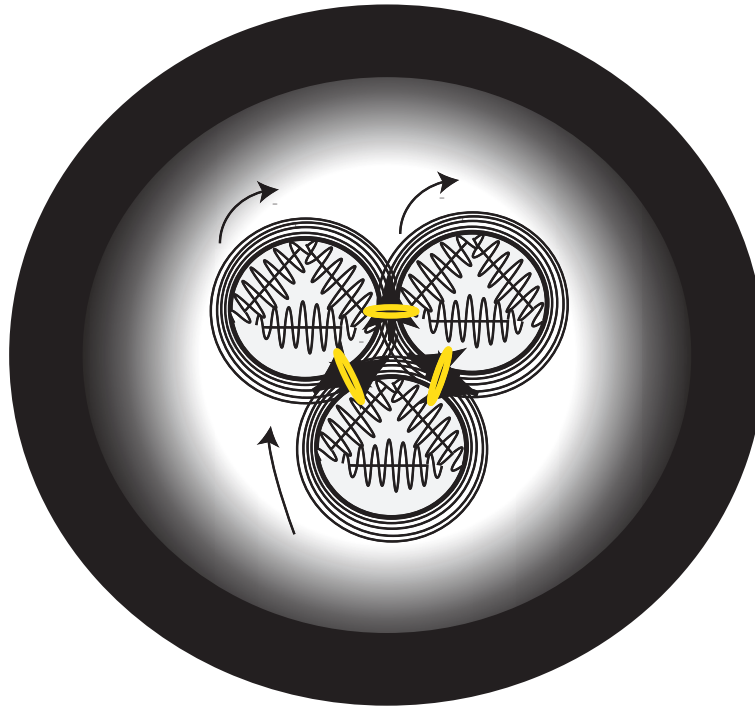


FIGURE 6. The three spinning F particles create their own electromagnetic shield - the Complete Particle.

through it any open minded person will come to the conclusion that this is a wishful theory with ideas with no real roots in reality. Just try going through the colour concept , their idea of Hadronic charge , I personally after thinking about it could not have much faith in it. I will say no more about Quarks and gluons and gluballs and colours changing into other colours and excuses for nearly all the experiments failing to provide any evidence for the theory. They go as far as to say that these Quarks are bonded so much that we can never ever find one free - how is that for an excuse for experimental failure. One thing nature tells us that NOTHING is 100 percent , so even if these magic Quarks were incredibly tightly bonded there would be some very small figure that would escape so for me not finding ANY free means they do not exist. At first as I studied the colour theory which , I think , no one would disagree, is the main part of the present Quark based model I was confused as to how on earth they worked out this part of the theory which was neither intuitive or obvious. Then As I studied on all was revealed. The whole colour circus was developed to solve one problem their Quark based model encountered - The Pauli Exclusion Principle. As baryons and Hadrons in general are all fermions they are subject to the Pauli Exclusion Principle and simply put the whole theory would fall apart if there was no solution. Then the answers to my questions about the colour theory were obvious. They started with the problem - the PEP and working backwards produced this

highly over-complex completely unintuitive theory until they had a solution to their problem.

Of course we have a much simpler and elegant solution to the problem.

If two F particles find themselves in a nuclei and they are both in the same quantum state, one simply perform a

$$(17.1) \quad \frac{1}{2}$$

spin on the M axis and all its signs are immediately changed and there is no need to create the colour monster. It never existed in the first place.

#### 18. THE THEORY OF THE F PARTICLE

The F particle which we have proposed through nothing else except thought and logic ( in the end what else is there?)is the basis of this theory of Hadrons.( and other types of particles). The diagram below again shows the proposed Fundamental Particle. Some more in-depth analysis will be required to unlock any secrets that it may hold. In particular a mathematical analysis of the Hydronic Gravity is required. If there is any truth in it it should reveal the key to the masses that Hadrons are made of, I intend doing this soon but I am under no illusion that it may not be an easy task. The analysis of complex , chaotic systems, which is what we have here is always difficult.

Photons. In looking at the diagram its self explanatory. Before we showed that it is indeed possible for the neutral photon to interact by charging the space surrounding it and the previous diagram showed how they could come together to form the stablest of shapes the triangle . This triangle of photons , spinning at the speed of light forms the first particle by spinning the very fabric of space contained in the sphere surrounding it into a wall - giving the universe its first particle. The observent reader will have already noticed that the F particle can be viewed as a micro hole in the univers or even a midro Black Hole. (the triangle is by no means the only combination possible) This wall is all the space fabric previously contained in the sphere crushed into a circumference surrounding wall. It is referred to as the hadronic force but in reality it is good old fashioned gravity, for what is Gravity if it is not crushed and distorted space fabric. Our own by the body of the earth and the F particles by the spinning photons. There is much more that one could say about the F particle but for now its best to keep the model simple. The main properties it has is that it can spin either clockwise or anti-clockwise (and in other plains) and it spins round its own circumference at probably the speed of light or just under it. It is matter after all so matter cannot travel at the speed of light but it is so fundamental being just some photons and a gravity field that maybe it can.

Some more anecdotal evidence - what is the most common energy released during radioactive decay of a nucleus - answer Gamma-rays or high energy photons.

They don not come from no-where they come from inside a Hadron.

#### 19. THE HADRONIC FORCE IN THE F PARTICLE

We can derive information about the nature of the Hadronic force by using Gravity as our model as we propose that both forces are essentially the same and have the same cause.

What causes Gravity. Surprisingly enough the text books and papers that I have read whilst doing my research are sometimes confused as to its nature so I will state "Gravity for Beginners". Gravity is sometimes referred to as a gravity field and that is not inaccurate. The earths gravity is caused by the earths volume/density displacing the fabric of Space that surrounds the planet. So there will be an amount of matter/energy that can displace a unit of space fabric. I have looked at the text books on gravity but , strangely enough I have not found it expressed in exactly these terms, thus another task awaits. Once I get this figure i.e. how much energy is needed to change the density of space fabric by a unit measurement I can use this equation to derive the properties of the Hadronic Field surrounding the F Particle. The energy being produced by the protons spinning at the speed of light will create the wall of the spherical particle and we shall know how dense and how much the bulk of it extends into space. This will be the first order of the day.

The interesting stuff, as we have just glimpsed starts when we start to combine the different variations of the F Particle in order to create nucleides and that is what we have started to do.

## 20. THE F PARTICLE USED TO MAKE NUCLEIDES

Some initial analysis of the F particle

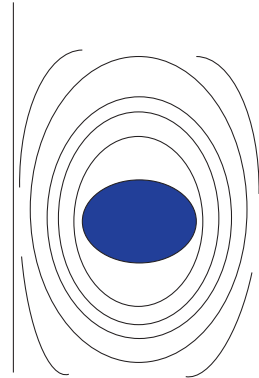
The Hadronic Force/ Wall:

-

In order to explain the Hadronic Gravity the major player in this great play of ours , reality, I will again invite the real star of the show to take the stage - The fabric of Space. Gravity simply put is the displacement of space fabric by matter in order to create dense fields of space fabric. The difference in strengths say from the earths gravity and the hadronic force created by the F particle is due to a couple of reasons. First of all the density of the earth. If you could magnify down all of the various matters that make up the Earth one would discover that they are in fact made up mostly of space. There are the subatomic particles floating in a sea of space. I have no idea of the ratio of space to actual matter i.e. particles but it is probably more than 99 percent. This is often a shock when you try to explain that most of what we and the earth are is just space but it is nevertheless true. So to get back to Gravity it is created when matter and I don't mean all the space that exists at sub atomic level but the particles displace the fabric of space causing it to be more dense around the matter. Also that is why matter is strongest around densest planetary objects, A black hole is simply created when a sun collapses and becomes 100 percent matter and all space fabric is displaced creating , yes , a black hole in space where there is no space fabric So if we now take our model of Gravity and apply it to our F particle it is quite logical to see that it will create a gravity field much stronger than say the earths as it will probably eject all or nearly all of the space fabric it contains within it out of the particle, depending on the energy of the constituent Gamma Rays, this space fabric will then surround the particle creating a very strong Hadronic Gravitational field, thus explaining the differences in strengths of the two forces. It may turn out in the end that all forces are derived out of some type of space fabric distortion. The Hadronic force is very strong at short distances which would be expected as is Gravity and indeed the bonding can be explained as there

are three particles that combine their respective Hadronic Fields which are additive and perhaps in the centre of the triangle of F particles all the three forces combine to create an extremely strong bond at the heart of the Hadron. The way that they combine depends on factors such as direction of spin and shall produce Hadrons of various properties and Hadronic Fields. Calculations should be much simpler in our model as there are none of these quarks joined by gluons passing colour changeable forces between them - no much simpler than that and I would not wish to analyse the present model, but if you have a whole dept. then I guess you can keep them busy.

The following diagram shows very simply how a heavy object in space (a planet) warps and curves the very fabric of space. The warping is simply shown by the curved lines round the planet that represent the fabric of space. If an object enters the gravity field it will follow the curve of space therefore straight is no longer Euclidean straight and in order to offset this the object would actually have to follow a curved route in order to keep going straight.



space.eps space.eps

Curved space Round Massive Object

FIGURE 7. GRAVITY CREATES CURVED SPACE.

## 21. GRAVITY

Since we are going to use Gravity as the model for the hadronic force surrounding the F particle it would be best now to give a quick overview of just exactly what it is ,mathematical.

Mathematically speaking it is very simple to explain. the equation of gravity states that the force between two masses is equal to the product of the masses multiplied by the Gravitational constant and divided by the square of the radius between them - that is just the inverse square law that shows how quickly the force falls away ( a geometric tail off). This is of course Newtons equation but it will do quite fine , in fact , it is easier to see what is really going on. The key here to understanding gravity is to look to the units and in particular the units of G the gravitational constant. They can be expressed in a number of ways but the most common is  $N ( m/kg^2)$ . this is newtons times meters per kilogram squared. what is meters per kilogram squared - it is density. therefore the constant is saying that the greater the density the greater the force expressed in newtons -newtons times density. Exactly what I stated and in full view under observation of newtons famous equation.

The constant is actually difficult to measure and our calculations may be ,shall we say, be hopeful

So to recap the density ( the squashing together of space by matter) produces the force ,which is not hard to see and the distance causes it to decrease rapidly. The latest value for G for the earth is  $6,674 \times 10^{11} N(m/kg^2)$

## 22. THE HADRONIC FORCE

So in our case we shall assume that the gravity is 100 percent as you would find in a black hole. This is not unreasonable as what takes the place of matter in our scenario is a particle created by three photons spinning in all directions at the speed of light so our assumption is that all the space formerly inside compresses in three dimensions. We can look at the properties of a black hoe and understanding that it follows the inverse square law we should be able to get a good figure.the fabric of space is thrown against the wall. So the only major property we need to determine is how the fabric of space is distorted and how much energy is required.

## 23. LAST COMMENT ON GRAVITY

The key to understanding gravity is in the structure of the F particle. Its the F particle that is distorting the fabric of space - the F particle that is presently called a Quark. The F particle pushes the fabric of space out of its internal space. Imagine a few billion of the F particles all joined together and you can see how a large mass can distort the fabric of space and create what we know of as gravity. If an astronaut gets caught in the gravity surrounding a large mass he will either swing shot round the mass and fly off back into deep space or if he is close enough he will spiral downwards towards the mass (planet). What one has to remember is that the astronaut is , in both cases still traveling in a straight line. It is the fabric of space around the mass that has created a straight line that is no longer Euclidean straight but it is still straight. I know it sounds more than a little crazy but it is the truth. straight is no longer straight. If the astronaut wishes to travel

straight as before he will have to travel in a curved path to offset the curve in space created by Gravity.

24. AN APPROXIMATE SIZE FOR THE F PARTICLE - A LITTLE MATHS

By calculation a figure for the instant that a collapsing suns gravity becomes equal to the escape velocity of light can be derived. This is the instant that the fabric of space has been totally 100 PERCENT DISPLACED BY MATTER. We shall use this figure as a benchmark for our calculation concerning the F particle. That figure is:

$$(24.1) \quad \text{Blackhole Density} = 2 \times 10^{19} \text{ kg/m}^3$$

As this paper states that a similiar process is happening when the most fundamental particle is being created therefore we shall use this Black Hole Density.

Taking the experimental value of mass in kg the volume of the PROTON can be calculated;

Experimental volume of the PROTON =

$$(24.2) \quad \frac{1.6726231(10) \times 10^{27} \text{ kg}}{2 \times 10^{19} \text{ kg/m}^3} = 8.3631155 \times 10^{-47} \text{ m}^3$$

As there are three F particles get the ratio of the F Partice volume to the Volume of the Proton containing Sphere

Volume of F particle as the radius of the F particle will be half that of the radius of the an assumed containing perfect Protonic sphere. And the Volume calculates to be:

$$(24.3) \quad = 0,7 \times 10^{-38}$$

The figure as can be seen is quite substantially smaller but in the range expected. The Volume of a Proton is a very inexact number but a simple approximation, as has been done, is to assume a sphere and do some calculations thus: Therefore which our rather grand approximation the proton as a sphere , we can use the formula of the volume of a sphere..

VOLUME OF PROTON V =

$$\frac{4}{3} \pi r^3$$

$$(24.4)$$

$$3)V(\text{proton}) = \frac{4}{3}x\pi(1x100^{-15m})^3 = 2.355x10^{-45m^3}$$

(24.5)

I would argue that the figure derived using the Black Hole density is very close as there is no definite answer for the Proton Volume due to its constant motion and shape changing but to get it to within 2 power (using our theory of Black Hole Density) indices shows that the figure is close and has validity. The figures in text books given cover a broad range from power -40 to power -45. The figures are at best gross approximations but somewhere in the region.

SO THE FIGURE CALCULATED USING THE EXPERIMENTAL MASS AS OPPOSED TO THE FIGURE CALCULATED USING BLACK HOLE DENSITY ARE:

$$8.3631155x10^{-47}m^3 - COMPARED TO - 2.355x10^{-45}m^3$$

(24.6)

AND THE VOLUME OF THE F PARTICLE FROM THE BLACK HOLE DENSITY IS:

$$0,7x10^{-38}m^3$$

(24.7)

This figure can then be changed into an energy equivalence in order to determine the frequency of the forming GAMMA radiation.

$$\text{using Einsteins } E = MC^2$$

(24.8)

$$\begin{aligned} \text{mass} &= \text{volume} \times \text{density} \\ &= 0,7 \times 10^{-38}m^3 \times 2x10^{19}kg/m^3 \\ &= 14 \times 10^{-20} \\ c^2 &= (299\,792\,458)^2m/s \\ &= 89.875 \times 10^{15} \\ \text{Energy} &= 0.1258 \text{ joules and} \\ \text{Electron Volt Equivalent} &= 785\text{PeV or} \\ &\mathbf{785 \times 10^{15}eVolts.} \end{aligned}$$

(24.9)



The energy then is just under the GreisenZatsepinKuzmin limit, at the upper end of Gamma ray radiation which is what would be expected to exist in the early stages of the universe.

Finally to calculate the frequency from the energy we are again thankful to Einstein who recognised that the frequency of photonic radiation is equal to its energy divided by Planck's constant.

$$Energy = \hbar \times \omega$$

(24.10)

$$\begin{aligned} \omega &= Energy \div \hbar \\ &= 1.8986 \times 10^{32} \text{ Hertz} \end{aligned}$$

(24.11)

List of properties derived experimentally for the proton.

Property Units Value

1. Compton Wavelength  $\hbar/mc$  0.210 fm

2. Mass  $m_p$  938.3 MeV/c<sup>2</sup>

3. Mass  $m_p$  938 272 31(28) MeV/c<sup>2</sup>

= 1.672 623 1(10) x 10<sup>-27</sup> kg

= 1.007 276 470(12) u

= 1836.152 701(37) me

1 fm = x 10<sup>-15</sup> m

1 eV = 1.602 177 33(49) x 10<sup>-19</sup> J

Planck Mass =  $M_{\text{Planck}}$  1.221 047(79) x 10<sup>-19</sup> GeV/c<sup>2</sup>

## 25. ABOUT PLANCK'S CONSTANT

One of the bedrock principles of these papers has been to propose a new geometry for the Universe that we inhabit. This was not just plucked out of thin air; it is based on multiple evidence that has appeared as physics has been studied. The geometry that all the pieces of evidence point to is that we live in a Universe that shows that there exists, unknown to us, a mirror image dimension and a connection between the two dimensions that can be observed when studying the very small, i.e. Quantum physics. Quantum Physics and other areas throw up the concept of complex numbers which point to the existence of a complete mirrored dimension. This also has the effect that it entails that our Universe is not unbounded and if one could travel down in scale sufficiently one would eventually come heded to head with the inter-dimensional barrier.

So how does Planck's constant fit into this new Universal view.

I propose that Planck's constant is the measurement of the smallest distance that can exist between these two dimensions, the universal integer if you like that everything has been built on. Why, because as I have stated that EMR is born in the space between the dimensions and the dimension of this space defines its smallest oscillation

or highest frequency and the highest frequency possible will be governed by that space which is planks constant. It spawned all the initial Gamma rays that went on to create the initial fundamental particles - the first molecules - complex matter and eventually the celestial bodies and life itself - all based on the fundamental Universal integer - planks constant. This would mean that the highest frequency of EMR that is possible shall be that which can oscillate in this interdimensional barrier which is the width of planks constant. Normally it is expressed as a dimension of action but this is exactly what an oscillation is so its dimension is the bounded dimension of the smallest possible oscillation.

Planks length has been calculated from the equation

$$\sqrt{\frac{Gh}{c^{33}}} = 10^{-33}$$

(25.1)

so to derive how many cycles that are in 1 second which is the frequency we divide the distance travelled at the speed of light in 1 second by planks length. Maximum frequency =

$$\frac{299792458}{10^{-33}}$$

$$= 3 \times 10^{40} \text{ hertz}$$

(25.2)

which has a nice satisfying ring about it - **the length of the universal integer and the highest gamma radiation frequency..**

$$= 10^{-33} \text{ meters}$$

$$\text{and} = 3 \times 10^{40} \text{ hertz}$$

(25.3)

### Conclusion 1. 26. FROM PARTICLES TO BLACK HOLES

*So the story of mass goes from the birth of the first particle to the birth of the first Black Hole. For what is a black hole if not the ultimate mass. Its pure 100 percent mass , created when the mass of a star is crushed so dense that all the fabric of space is displaced totally creating a hole in the universe. This paper has been all about this. A particle and a black hole are 2 of the same kind. The particle is created when its space fabric is ejected by the energy of the photons, creating a micro hole in the universe. Some basic calculations can show that if the photons are of sufficient energy level , in the Gamma-ray range , there will be enough energy to*

eject all the space fabric to create a particle the size of the proton whose size has been determined experimentally. Gamma-rays in the 100s to 1000s of PeVolts have enough energy to achieve this. So the difference in the Hadrons for example will be determined by the energy level of the creating photons.

Remember the atoms in your body are only on loan, someday you will have to give them back and they might well end up in a black hole. That is where the story stops as the laws of physics stop at the entrance to the black hole and we have no idea what is on the other side.

Though one speculative theory I have heard is in some ways comforting - a black hole is the other side of a big bang, creating a new universe, billions of them. An endless cycle of universal birth , death and re-birth.

#### REFERENCES

- [1] Hans Frauenfelder, Ernest M. Henley *Subatomic Physics Second Edition* Prentice Hall Upper saddle River , New Jersey.
- [2] WIKIPEDIA -general reference -too many papers to mention.
- [3] J. E. House. *Fundamentals of Quantum Mechanics* Academic Press, Harcourt Brace Company, publishers. New York.
- [4] Steven Weinberg. *The Quantum theory of Fields* Press Syndicate of the University of Cambridge West 20th St. New York
- [5] J. J. Sakurai. *Advanced Quantum Mechanics* Addison-Wesley 1967
- [6] Roger Penrose *The Road to Reality*
- [7] James H. Smith *Introduction to Special Relativity* Benjamin, New York, 1965.
- [8] N. David Mermin *Space and Time in Special Relativity* McGraw-Hill, New York, 1968.
- [9] Richard P. Feynman Robert, B. Leighton, and Matthew Sands *The Feynman Lectures on Physics* Addison-Wesley 1963.
- [10] Robert Resnick, David Halliday, and Kenneth S. Krane *Physics* Wiley, New York, 1992.
- [11] Richard Wolfson ,Jay M. Pasachoff *Physics with Modern Physics For Scientists and Engineers* AddisonWesley, Reading, MA, 1999
- [12] Arthur Beiser *Concepts of Modern Physics* McGrawHill, New York, 2003.
- [13] Randy Harris *Nonclassical Physics: Beyond Newtons View* Addison Wesley, Menlo Park, CA, 1999.
- [14] Robert Resnick and David Halliday *Basic Concepts in Relativity and Early Quantum Theory* Macmillan, New York, 1992.
- [15] Steve Adams *Relativity: An Introduction to Space-Time Physics* Taylor Francis, London, 1997.
- [16] G. Barton *Introduction to the Relativity Principle* Wiley, New York, 1999.
- [17] Wolfgang Rindler *Introduction to Special Relativity* Clarendon, Oxford, 1982.
- [18] Leo Sartori *Understanding Relativity: A Simplified Approach to Einsteins Theories* University of California Press, Berkeley, 1996.
- [19] W. S. C. Williams *Introducing Special Relativity* Taylor Francis, London, 2002.
- [20] R. D. Sard *Relativistic Mechanics: Special Relativity and Classical Particle Dynamics* Benjamin, New York, 1970

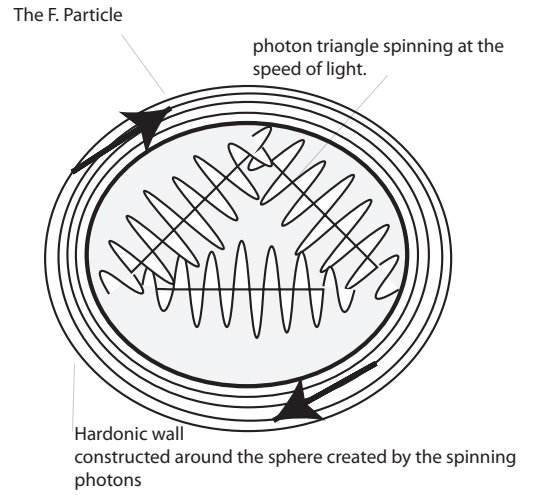


FIGURE 8. THE FUNDAMENTAL PARTICLE.

Three of the particles shown in a 2 x clockwise plus 1 x anti-clockwise rotation configuration, Shown are the strong points of attraction explained in the text.

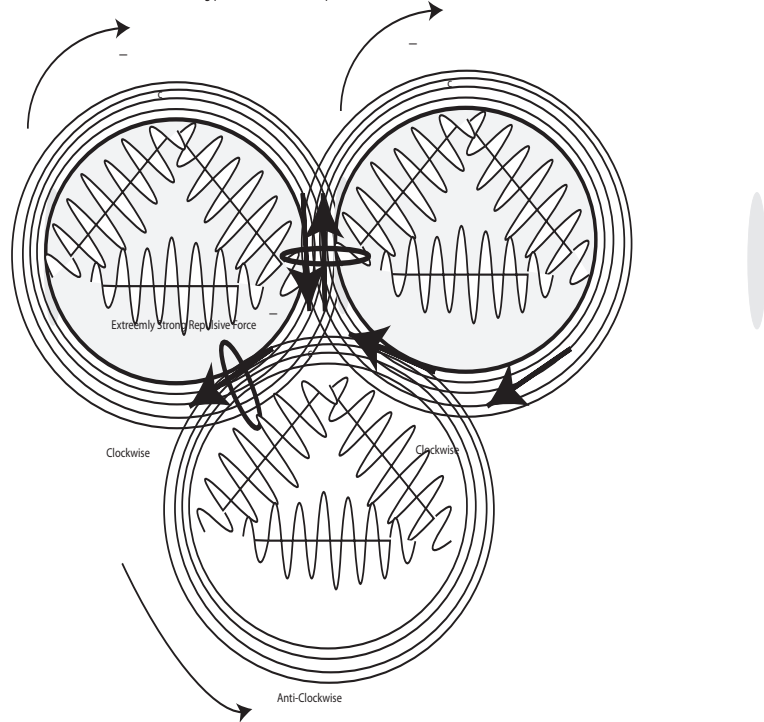


FIGURE 9. THIS CONFIGURATION IS + + - .

A 2 x clockwise plus 1 x ant configuration Hadron

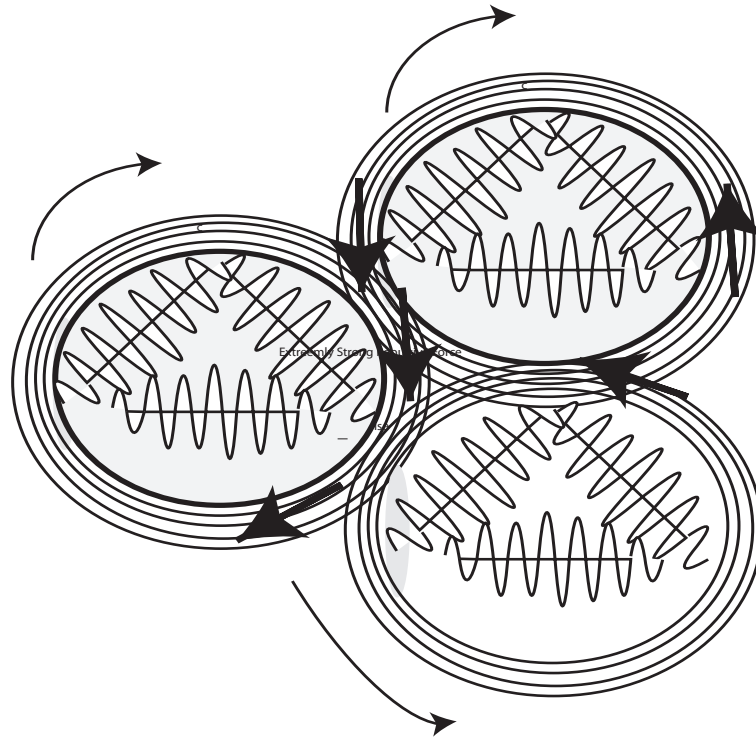


FIGURE 10. THIS CONFIGURATION IS + - + .

- 28. + + -
- 29. + - +
- 30. + - -
- 31. - + +
- 32. - + -
- 33. - - +
- 34. - - -

From the truth table 6 turn out to be protons and 2 neutrons so that's a 3:1 favour of PROTONS in the universe and they are indeed more populated.

Three of the particles shown in a 1 x clockwise + 2 x anti-clockwise rotation configuration,  
Shown are the strong points of attraction and repulsion explained in the text.

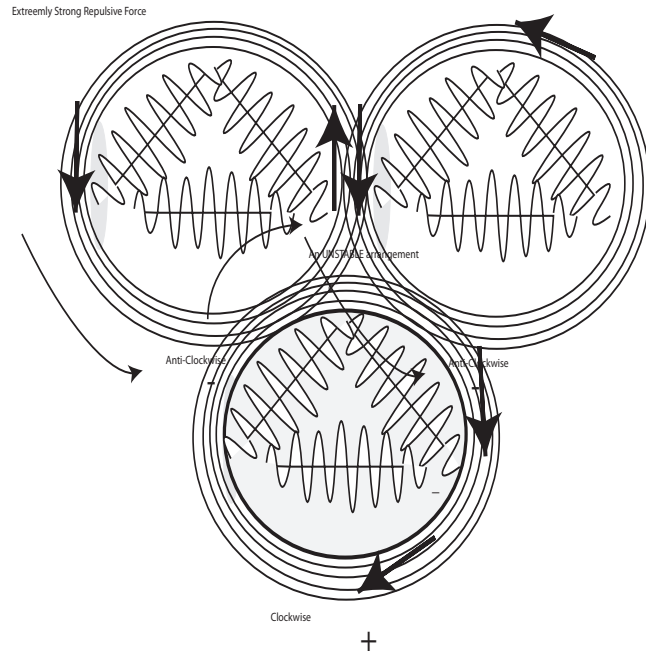


FIGURE 11. THIS CONFIGURATION IS + - - .

THE ORIGIN OF MATTER PART II THE FUNDAMENTAL BUILDING BLOCK - THE PHOTON

Three of the particles shown in a 2 x clockwise + 1 x anti-clockwise rotation configuration,  
Shown are the strong points of attraction and repulsion explained in the text.

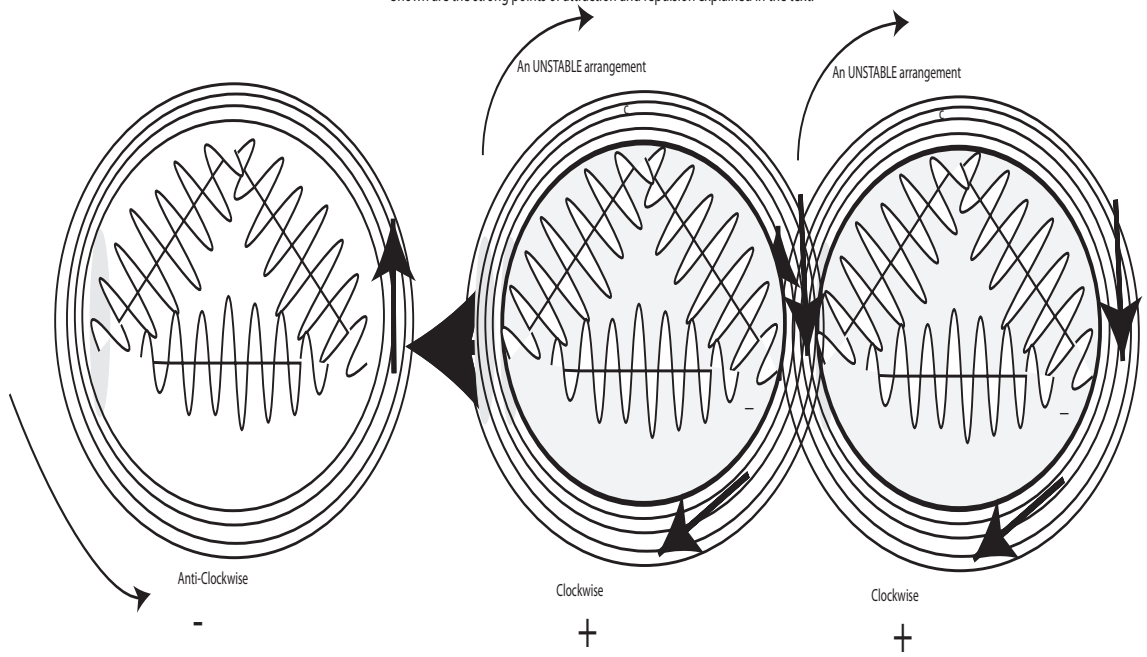


FIGURE 12. THIS CONFIGURATION IS - + +.

Three of the particles shown in a 1 x clockwise + 2 x anti-clockwise rotation configuration,  
Shown are the strong points of attraction and repulsion explained in the text.

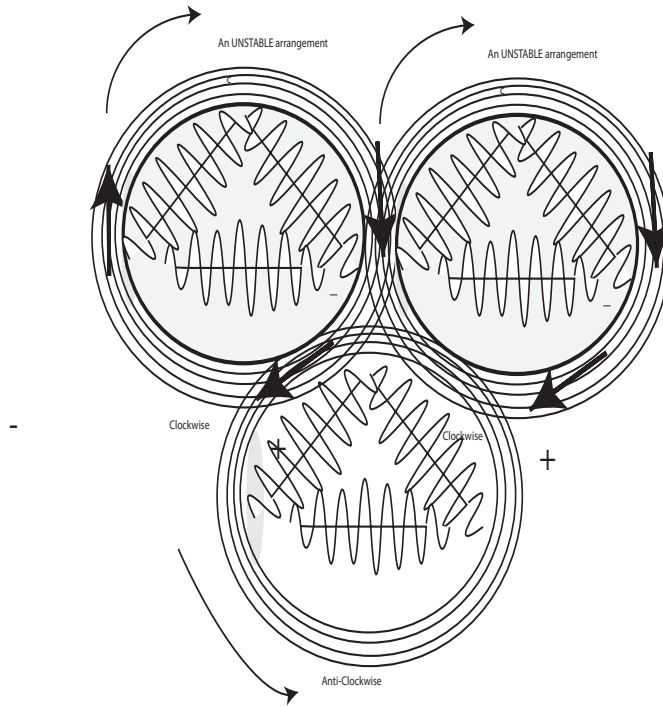


FIGURE 13. THIS CONFIGURATION IS - + - .



THE ORIGIN OF MATTER PART II THE FUNDAMENTAL BUILDING BLOCK - THE PHOTONS

Three of the particles shown in a 2 x clockwise + 1 x anti-clockwise rotation configuration,  
Shown are the strong points of attraction and repulsion explained in the text.

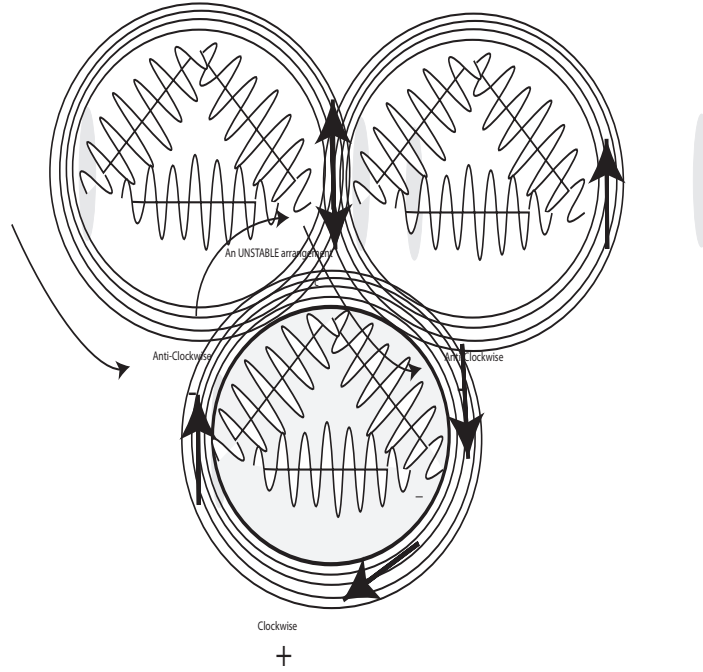


FIGURE 14. THIS CONFIGURATION IS - - + .

Three of the particles shown in a 2 x clockwise + 1 x anti-clockwise rotation configuration,  
Shown are the strong points of attraction and repulsion explained in the text.

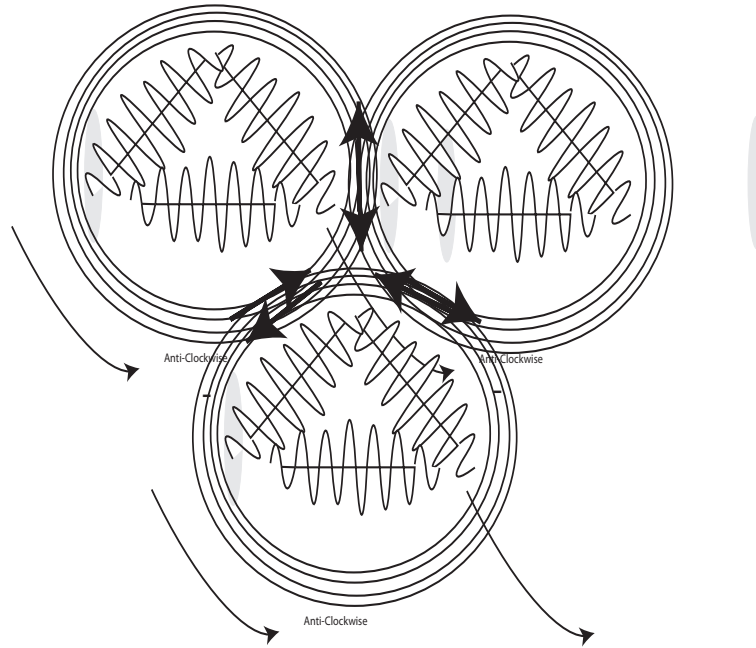


FIGURE 15. THIS CONFIGURATION IS - - - .