

SEE, — **HOW** the complexities of **FIELD THEORIES** **HID** from us, the fact that **relative motion** (phase) between all these spinning entities, in the micro & macro universe, gives us **all** the **attractive and repulsive** **Fundamental Forces**.

Oct-29-2018.

**Field Theories** in html: <http://rbduncan.com/fieldtheory.html>

Also, **Field Theories** in Word: <http://rbduncan.com/fieldtheory.doc>

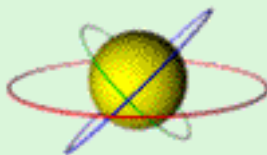
& **Field Theories** in Adobe pdf: <http://rbduncan.com/fieldtheory.pdf> Fitzpatrick's 1966 book showed the **relative motion** laws of **A. Ampère** unified the forces.

[Fitz's first book in 1966](#)

[Fitz's 1966 book in PDF](#)

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This was the way the site --below-- looked many years ago. - - Dan Fitz.



## Why we have Gravity and why we have Centrifugal Force

A correct theory of gravity will show us these four (4) things:

1. It will show us why gravity also acts like acceleration (principle of equivalence).
2. It will show us the actual cause of gravity.
3. It will show us why gravitational mass and inertial

mass are identical.

4. It will show us the speed of gravitational attraction.

Today half the scientists believe gravity acts at the speed of light but not even one astronomical group of any university agrees with this speed. They all claim it has to be much, much faster than this for our universe to be stable. Not only that but since there is aberration with light but none with gravity then, astronomers claim, this also is proof gravity must be acting at a far faster speed than light.

Newton said gravity was acting at a much faster speed than Einstein.

Which one of them is right?

This is a major scientific enigma.

How can the scientific community be so divided about this important speed?

A correct theory of gravity should finally clear up this big problem and give us the proper speed of gravity.

This **new concept** of gravity that I will present, in this paper, will give you all of those four (4) things needed for a correct theory of gravity.

Einstein told us that our concept of fields could be wrong in 1954 -- just before he died -- when he said: *"I consider it quite possible that physics cannot be based on the field concept, i. e., on continuous structures. In that case, nothing remains of my entire castle in the air, gravitation theory included, [and of] the rest of modern physics."*

Einstein was right: Physics cannot be based on the **field** concept unless it is realized that fields, like **motion**, must be restricted to certain spin/orbit frequency parameters. (*This will be covered further on, in this paper.*) Future science will not be based on fields! Physics must be based -- like quantum physics -- on quanta, which when all added up simply *resemble* a field. In this new **scalar** frequency universe of Wolff and **Schrödinger**, the field is *never* a **continuous structure**: It's always a structure with absolute spin/orbit frequency limits of a particular entity; and this new knowledge gives us the reason **why** we have the various **gauges**, and different rules for each of them, in quantum mechanics. **For instance**: the **QED** (Quantum ElectroDynamics) **gauge** is limited to the spin/orbit frequency range of the electron and the **QCD** (Quantum ChromoDynamics) **gauge** is limited to the much higher spin/orbit frequency range of the quarks.

Math and rules for these two **gauges** are entirely different. *We'll have a Britannica quote about these **gauges** later on.*

Even though a multitude of quanta resemble a field, a quantum and a field are entirely different. So field rules and math are used only where a multitude of quantum exchanges take place.

You cannot analyze an individual quantum energy exchange, where an orbit or spin has changed, using field rules and math.

First -- to understand why we have gravity -- you have to understand why we have magnetism. Magnetism is derived from the electron's spin or spin frequency whichever you prefer.

Scientists are in agreement that the smallest element of magnetism is the spinning electron and that it is the spin of the electron -- or spin frequency of the electron -- that causes magnetism.

But we do have a bit of disagreement as to whether the quantum purists are right in that it is the spin frequency causing magnetism or as Nobel laureate Neils Bohr saw it as magnetism being caused by an actual spherical, spinning electron that orbited around the nucleus.

Yes, this **new concept** of gravity is a revolutionary leap away from the concept of strong force containment and some other popular beliefs **but it's the only gravitational concept that ends up giving us all the right answers that we are actually finding.**

Here's the **abstract** of this **new concept** of gravity:

*The Strong Force is derived from the quark spin or quark spin frequency and Gravity can be seen -- in **this new concept** -- as phase coherence or **STRONG FORCE LEAKAGE.***

*Gravity is the binding of quarks with other quarks (in other atoms) via their spin or spin frequency. In other words the strong force -- via phase coherence -- is leaking out to other atoms.*

*Inertia is the binding of quarks with quarks in the far distant stars.*

*Centrifugal force is the same as inertial binding but rotational speed has been added to those quarks thereby moving a portion of those spinning quarks up higher on the asymptotic energy curve -- of the speed of light -- thus increasing their binding strength to similar quarks in the stars.*

*It is the number of these bonding pairs that decrease with the square of the distance. This is the reason we have the inverse square law. The strength of each electron to electron bond remains the same even if the distance varies. This is why -- when this binding changes from far to close -- a quantum of light energy (binding energy) comes to our eye full strength from a distant star. However, as electron to distant electron binding ceases at the Hubble limit.*

*A quark is a higher frequency harmonic of the electron. The quark's frequency is the square of the electron's. This is why we have  $c^2$  in our math and this is also why gravity is equivalent to acceleration; you'll see why later. This harmonic linkage, of the electron to the quark, is why gravity bends light.*

I'll need the rest of the paper to explain all this.

This paper gives you a glimpse into this **new concept** that future scientists will someday be using.

This **new concept** also shows us that we do indeed have quantum gravity. We can now precisely see what produces each quantum unit of gravitational attraction. Not only that but now we can see exactly why the gravitational force of a black hole can be



felt even though no light can escape from that same black hole.

You will not only understand this but if you diligently read through all of this paper then even more things about this universe will make far more sense and you will also see where this new knowledge solves the riddle of the strong force and shows why it seems to act as if contained. This, in itself, is truly amazing.

I've worked in electronics all my life and know that **phase** is one of the most important elements when working with frequencies. What's difficult for me to believe, is that some of my quantum theorist peers - *by mistakenly rejecting the concepts of Nobel prize winner Niels Bohr* - have thereby eliminated the most important microcosm **phase** indicator from the **standard model**.

Yes, this is hard to believe but this is what is happening!

This is a Schrödinger frequency universe and in it we have

**Fitzpatrick's RPR - - Relative Phase Relationships.**

Mach was right: Surroundings are involved

Nobel laureate Richard Feynman showed how

important motion was for unification in his famous [Feynman's QED](#) (Please click these [blue](#) links to learn even more.)

I showed in [my first book](#) in 1966 how gravity could be unified with the other forces by using [Ampère's Relative Motion Laws](#).

Since then I've recognized Ampère's Laws are showing me this is a frequency universe that is really obeying simple phase laws: Space is built up by the average amount elements are *out of phase* with each other. Repulsive forces are generated between elements that are more *out of phase* than average. While elements more *in phase*, than average, produce **attractive** forces. Because most of the in phase items are already congealed together, then space is the average out of phase condition between all these spinning, orbiting entities we see in our universe.

It's well known that magnetic force is caused by the electron spin frequency and the strong force by the quark spin frequency. What is not as well known is that inertia is caused via a quark spin frequency and gravity is being caused by the same *in phase* quark spin frequency. Another -- much lower frequency -- gravitational force is being caused by the *spin* of



galaxies. The reason we see the spiral arms of galaxies going faster than their escape velocity is because of additional gravitational force via the galactic spin. In addition, all the entities inside a faster spinning galaxy, or those entities closer to the black hole center of the galaxy, will have more gravitational attraction than those in slower spinning galaxies or more toward the edge of the galaxy; (*Mach's principle is nothing more than phase coherence.*)

I still have a letter of approval from Lincoln Barnett about my 1966 book. Lincoln Barnett wrote relativity articles for the Britannica. But I got blasted by scientist Robert Dicke. Dicke said that if gravity was being caused by relative motion then we would see interference fringes but we don't. In a way Dicke was right because we do see Dicke's fringes or multiple images or gravitational lensing or cosmic mirages caused by the lower frequency galactic spin that makes its own extra gravitational attraction that we can't feel in our galaxy. **A belated thanks to Robert Dicke whose interference fringes now finally give us the proof that not only gravity is caused by relative motion but Dicke's fringes also show that the spin of galaxies produce gravity via relative motion (phase).** But we cannot see any fringes

caused by the quark spin frequency because that frequency is too high. Dicke didn't know about quarks back then and neither did I. Proof of Murray Gell-Mann's quarks and the strong force did not arrive until 1974.

Gravity ends up being separated into two parts like Pakistan with India in between. Gravity is separated into two frequencies: The high frequency of gravity is the quark spin frequency. The low spin frequency, of gravity, is the galactic spin frequency and in between those two gravitational frequencies is magnetic force and chemical bonding of the electron spin frequency.

Einstein knew gravity was a frequency. He even predicted it could be polarized like light. The only gravitational frequency we can feel, however, is gravity caused by the quark spin frequency. We can't feel the extra gravitational force caused by other spinning galaxies but we know that extra gravitational force is there because we see the spiral arms of those galaxies going faster than their escape velocity -- and this is impossible unless that extra gravitational force is there. It is: The spin of the galaxy is causing it.

Not only do certain quark *in phase* spin frequency

bindings with distant quarks in the surroundings give us inertia (*Mach's principle*), but each of these electron to distant electron vortice bindings give us a photon of energy as an electron in your eye first binds with an electron on a distant star then releases that bond and then binds with a another closer electron in your eye. All these bindings must impedance match as well! These spin up--spin down electron pair vortice bindings -- *giving us energy quanta* -- are the same strength all the way to the Hubble limit where -- as [Dr. Milo Wolff](#) discovered -- they cease entirely. Only the number of these electron to electron binding pairs decrease as the square of the distance. When certain electrons change binding they give us a dark line in the spectrum.

Things are tuned to specific spacetime realms -- much like a superheterodyne radio tunes into a certain bandspread -- in this frequency universe. We are able to see planets, stars and galaxies, which are in our bandspread but electrons and quarks are at too high a frequency for us to see. So we cannot see into the microcosm. As Wheeler and Feynman taught us, we cannot directly measure anything outside of our spacetime realm but we most certainly may detect it.

Berkeley, Mach, Einstein and even Maxwell told us that inertial mass depended on our surrounding universe (*the surrounding stars*). **All the gyro instruments used on airplanes and ships depend on gyros that hold their positions of alignment to the surrounding stars (phase coherence).** So a type of phase coherence binding - - *with the stars* - - is definitely there. Once you know a spinning gyroscope binds to the surrounding stars then you know centrifugal force is a type of binding with the surrounding stars too. We know we gain energy with a change in **close** binding. In fact this is called binding energy. The gyro shows us there must be a far distant binding as well as close binding. In 1851 Foucault suspended a pendulum on a long wire from the top of the dome of the Pantheon in Paris. This made newspaper headlines all over the world when everyone saw the direction of the pendulum swing did not stay in the same path but actually rotated. This swing direction made a complete rotation every 23 hours and 56 minutes. The earth rotates once every 24 hours in respect to the sun but it rotates once in respect to the stars in 23 hours and 56 minutes. Navigators know this as a sidereal day. So Foucault's pendulum actually swung back and forth in a straight line that remained in the same position and that never varied **in relation**

**to the surrounding stars because of phase coherence!**

So we have known gyroscopes, pendulums and vibrating elements held their position in space in relation to the surrounding stars since 1851. There is no possible way they could do this unless there was some type of binding between those aforementioned items and the surrounding stars.

Now put on your thinking cap. If the strength of this binding got weaker as the square of the distance then Foucault's pendulum would hold to the nearby earth, but it doesn't; it holds to the stars many trillions of times further away. The earth rotates under a pendulum or gyroscope once in 23 hours and 56 minutes. Pendulums, gyros and vibrating elements hold to the stars -- that are many trillions of times further away than the earth -- because distance plays no part whatsoever in the strength of each individual quark to distant quark bond. This is **Mach's principle!**

**Mach's principle** is simply given lip service these days and the universities continue to sweep this distant binding evidence under the rug because it doesn't agree with the present science religion that they are preaching.



But from this evidence, that is presently being dismissed, you can discern what energy really is: Kinetic energy -- *for a particular electron* -- is merely a binding change from far distant binding to close binding for that particular electron gaining the energy.

An increase of binding -- via phase coherence -- with the surrounding stars gives an increase in mass. This is **Fitzpatrick's principle!**

For electron to electron binding or quark to quark binding, impedance must match. In a black hole the density (mass) of electrons inside the black hole is too great for impedance matching with electrons outside the black hole: there can be no impedance matching here; thus no binding here. But with enough centrifugal force, the quarks in your bicycle wheels may actually impedance match with quarks inside the same black hole. Thus while those electrons cannot bind, the quarks can. This is why, even though you cannot get light from the black hole, you may well feel the black hole's gravitational force simply by riding your bicycle and imparting a higher than normal speed to portions of the quarks in your bicycle rim. These higher mass quarks then are impedance matching with quarks in surrounding stars and even black holes if they are made massive



enough from the centrifugal force.

With iron, nickel & cobalt -- *at the very peak of the energy curve* -- we have a situation where these elements have about the same amount of binding -- *with the stars* -- that they have with closer entities. You can only have more spins in one direction (magnetism) when the binding from the surrounding stars approximately equals close binding.

Elements to the right of the peak, of the energy curve, are large enough to have more binding with the far distant surroundings than close binding. Therefore energy, for these, comes when **the same amount** of binding is being shifted from far to close, via fission, where smaller entities are created from the original entity.

Elements to the left of the peak, of the energy curve, are all less massive than iron but when they can fuse together via atomic fusion -- *becoming even closer together* -- then they too acquire even more closer binding and lose **that same amount** of binding (mass) with the surrounding stars.

The higher the binding with the stars -- via phase coherence -- then the higher the mass.

But how is all this binding being done?

Let's look at how it's done with magnetism and sigma and pi chemical bonding. Let's remember too, what all the chemists know, that you can never have a pi bond unless you also have a sigma bond.

Everyone knows that the smallest element of magnetism is the spinning electron. There are **two** types of orientations where electrons attract other electrons in both magnetism and chemical bonding.

The stronger magnetic attraction and the weaker chemical bond is where there is *phase coherence of their closest sides* or where both electrons *with the same spin have the same spin axis*. This polar type bond is called a pi bond in chemical bonding.

The weaker magnetic attraction but the stronger chemical bond is when there is also *phase coherence of their closest sides* when a *spin up and a spin down electron are spinning in the same spin plane*. This equatorial bond is called a sigma bond.

And one thing more of supreme importance is that the strength of these bonds do **not** decrease with distance but, as [\*Dr. Milo Wolff\*](#) discovered, fall off entirely at the distance of the Hubble limit. **Only the number of these bonding pairs decrease with the square of the distance -- hence the inverse**

**square law is not for energy but for numbers of individual quantum pairs.**

This is why a quantum of light, from a distant star, comes to your eye full strength. Your eye needs about 7 of these quanta -- *a change in binding of 7 electron pairs* -- to discern even the slightest bit of light.

You get a spark in the spark plug of your car **after** the coil disconnects from the battery. Your eye works similarly in that the quantum of light from a star appears in your eye **after** the electron in your eye disconnects its bond from the distant star and reconnects that same strength bond to another closer electron in your eye.

But now more about bonding methods: Why is the weaker magnetic attraction also the stronger chemical attraction?

Ah, it's because Niels Bohr was closer to the truth 90 years ago than our quantum scientists are today. It seems that these electrons are really in orbits and not orbitals. They really have to be thought of as actually traveling around the nucleus for the stronger magnetic attraction to be the same orientation as the weaker chemical attraction. Here's the reason why:

The polar bond in magnetism is the stronger bond but in chemical bonding the polar bonding of an electron below with one above it, can only happen when they are both perfectly lined up above and below each other on the same spin axis. And this is a very short portion indeed of the entire orbit time.

While the equatorial bond in magnetism is the weaker magnetic bond, it is the stronger chemical bond because the spins of both electrons, in a sigma bond, are in the same spin plane **constantly**. The sigma bond is a **constant** bond. This is why you must always have a sigma bond before you can have a pi bond. It's the sigma bond that really establishes the construction form or symmetry.

Scientists tell us 'Energy can neither be created nor destroyed'. The reason for this is that 'Energy is merely a shift' from far binding with the stars (mass - potential energy) to close binding (kinetic energy). Binding can neither be created nor destroyed; it can only be shifted in distance and it remains the same strength no matter the distance all the way to the Hubble limit.

*The above paragraph describes what happens, to create energy, in both chemical and atomic reactions respectively with electron binding and quark binding.*

Why do we have this binding?

It's "Ampère's law" or **phase coherence** binding.

Our present science concept has undoubtedly caused one of the main **weaknesses** in the **standard model**!

A Britannica 2009 DVD quote: "The **standard model** has proved a highly successful framework for predicting the interactions of quarks and leptons with great accuracy. Yet it has a number of **weaknesses** that lead physicists to search for a **more complete** theory of subatomic particles and their interactions."

Merely add the needed Ampère-Bohr **phase** indicator and *Mach's principle* to the **standard model** and you get the **more complete** theory everyone is looking for!

Once this is done, you will see if you read on that using *Schrödinger's frequency concept* will give you the **why** for the **symmetries** of everything in the **standard model**.

The reason for this is simple: Electric motors, stars, galaxies and even electrons, all spin and behave in relation to the **same phase rules** where there is a **binding** type attraction when both elements are **in**



**phase** and more of a **repulsion** the more **out of phase** they are to each other.

In this frequency world of **Schrödinger**, we then see **why** the electron's spin/orbital frequencies are a separate **gauge** from the quark's - *much higher frequency* - spin/orbital frequencies, in today's quantum world.

From the **Britannica 2009 DVD "Dirac, P.A.M.:** English theoretical physicist who was one of the founders of quantum mechanics and quantum electrodynamics. **Dirac** is most famous for his 1928 relativistic quantum theory of the electron and his prediction of the existence of antiparticles. In 1933 he shared the Nobel Prize for Physics with the Austrian physicist Erwin Schrödinger."

We cannot see into the spacetime realm (**gauge**) of the electron at all; however, we can learn its **gauge** rules. Quantum theory is built solely on our observances of tiny individual pieces of energy (**quanta**) that are either created or absorbed when mass-energy balances in the electron's spacetime realm have changed. This is all that realm (**gauge**) lets us see of it. From this, we know the electron "**sees**" itself and acts far differently from what we see is happening in our spacetime realm. The



electron appears to "[see](#)" itself as both a wave type resonance and a sort of spherical spinning particle. Niels Bohr won the Nobel Prize for showing us how this **particle-orbit** aspect of it caused the various light colors. A bit later, **P. A. M. Dirac** showed us the **spin** fine structure of the electron.

Pardon my improper use of "[see](#)" for the electron but I believe it paints the best picture. We see both space and time in the electron's realm more highly compressed than our time and space. We see time and space in the quark's realm (another very different - *higher frequency* - [gauge](#)) even more compressed from the electron's. Events in the microcosm happen much, much faster than events in our realm here; just as events in the macrocosm seem to happen slower than they do for us here on earth. These are **all [gauge theory](#)** road signs we can no longer ignore!

From the [Britannica 2009 DVD](#) -- "**[Gauge Theory](#)**: class of quantum field theory, a mathematical theory involving both quantum mechanics and Einstein's special theory of relativity that is commonly used to describe subatomic particles and their associated wave fields."

This is a universe that tries to keep its close binding

equal to its binding with the surrounding stars. It only does a perfect job, doing this though, with the element iron. It does almost as good with nickle and cobalt but much worse with the other elements and it balances far worse one way -- more links with the stars -- with uranium and the other way -- more close binding -- with the hydrogen isotopes. Given enough time the universe will balance out far to close bindings better than it's doing today. Eons of years from now the stars, by fission and fusion, will eventually convert all the elements back into iron and this 99.9% iron universe will become a dark cold universe because iron is the atomic energy ash heap. There is no way to get any more atomic energy out of iron by either fission or fusion. Iron is at the peak of the energy curve.

So kinetic energy is nothing more than the result of better balancing between close binding and the surrounding stars:

This pertains to atomic energy as well as chemical energy.

I hope you are getting a better idea now as to what energy really is!

There have been many tests of various materials of

the utmost accuracy and all of them have shown that gravitational mass is identical to inertial mass. The reason for this is that many of these quark to quark bindings are fleeting just as many electron to electron bindings are also momentary or fleeting. With the electron bindings, however, we can notice these binding changes with the production of light. But we don't have anything to show us the momentary aspect of quark to quark binding. The one thing we do know is that in any particular amount of a substance, the same **ratio** must constantly exist between quarks available to bind with the surrounding stars to cause inertial mass and those that bind with the earth to cause gravity. The **ratio** of quarks causing inertial mass to the number of quarks causing gravity remains the same. Gravitational mass is always identical to inertial mass because it's these same quarks binding with the stars causing both.

Inertial mass and gravitational mass are the same quarks binding with the same stars at the same distance. So even the number of pairs binding must remain the same.

Now put on your thinking cap again. So with this attempt at balanced binding, there is always this close to far binding **ratio** that stays constant. For a

certain amount of quarks, binding closer with the earth, there is always a certain amount allowed to bind with the surrounding stars to cause inertial mass. Mass isn't weight; it's the resistance to movement. It's quarks in the surrounding stars causing this resistance to movement -- inertial mass or gravitational mass. These may or may not be the same quarks giving us gravity but the balance **ratio** of those quarks binding with the surrounding stars to the number of quarks, giving us gravity, remains the same. This means that, from a certain item with a certain amount of quarks, these bindings to the stars, light years away, will always be the **same strength** because this **ratio** will always be the same and the distance to the stars will always be the same. **Therefore:** the strength of these quark bonds (the strong force) does not vary with distance from the exterior of the neutron or proton to the surrounding stars. **Why didn't anyone in these universities spot this?** Now you know something that all these well paid scientists don't know. This doesn't mean you are now going to make more money. They still know how to get the money now. They just don't know as much about science as you do now.

Gravity is always a vector force -- a pull in one direction. Both inertial mass and gravitational mass

are scalar forces -- a pull in all directions via the surrounding stars. What we know today is the **ratio** of vector force pulling quarks to scalar pulling quarks remains the same. Future science may show that it's the same number of quarks or even the same quarks but we do not know this today.

Niels **Bohr** won the Nobel Prize for seeing electrons as spinning, spherical particles on orbits. I know that some have relegated that idea of **Bohr's** to the dim and distant past and **Bohr's** orbits are now being seen by some as a wave function orbital cloud with **Bohr's motion** missing. This is a mistake! I'll agree that the wave function orbital is there but so is **Bohr's motion**. You had better apply that old **Bohr** concept again to see how **phase** enters the picture. You will then see exactly how all this works.

Having said that, I must also add the caveat: You must understand exactly what **motion** is and the spin/orbit frequency parameters inside of which it must remain: Motion only exists inside one particular spin/orbit frequency spacetime realm. We cannot see motion in the microcosm because our detector frequency is too low. We can only detect a change of motion -- when mass has been lost or gained -- in the microcosm.



One of the absolute proofs that **Bohr's** orbital **motion** actually exists in the microcosm is that the sigma bond is stronger than the pi bond. How can this exist unless there is real orbital motion there? It has to be that the two spin up, spin down sigma bound electrons keep spinning in the same plane - *producing the sigma bond over a far longer length of time* - than the polar pi bond that is only a short but repetitious bond whenever those two electrons, having the same spin, happen to pass directly over each other. So **Bohr's** orbital **motion** must be there. It's simply that it cannot be detected here. Only a microcosm spin/orbit change can be detected here.

We get the right answers by using both this concept of **motion**, used by **Niels Bohr** and the concept of *Mach's principle*, regardless of their diminution among many of my present peers.

From **Britannica 2009 DVD "Niels Henrik David Bohr: Danish physicist who was the first to apply the quantum theory, which restricts the energy of a system to certain discrete values, to the problem of atomic and molecular structure. For this work he received the Nobel Prize for Physics in 1922."**

The movement away from the way **Bohr** saw it, may seem correct but if you entirely forget *relative*



***motion*** and the orbiting, spinning particle that **Bohr** saw then you really lose sight of what's going on in a big way ***because you lose the extremely important concept of phase***. You **must** also understand that these things are acting as **both** particles in **motion** and resonances depending on which **gauge** (*spacetime realm*) the observer is in. You must look at these things **both** ways. So in science too, you get better depth perception if you use **both** eyes to see. **Bohr** got the Nobel Prize for seeing electrons as planetary objects on orbits.

***Phase is important. Remember this is a Schrödinger frequency universe and with frequencies, phase is of the utmost importance.***

**Phase** isn't that complicated either. Do some thinking: If this universe is a sea of waves, as Doctor Milo Wolff is telling us, then when similar entities are seen as **traveling together on parallel paths**, in respect to the **surroundings**, then the more **in phase** they must become to each other **compared to the surroundings**.

It's this **phase comparison** to the **surroundings** that is so vitally important here! You'll see this too as you read on.

It's essentially the same importance as the **phase**

**comparison** of the armature of a motor with its **surrounding** field windings. However, this is not being seen at all in, what Carter Meade calls, these *Dark Ages* of science where *Mach's principle* (**binding with the surroundings**) is given little more than lip service.

James Clerk Maxwell even cited the **surrounding** field windings in a motor as evidence of the *certainty of Mach's principle!*

You'll discover, herein, that centrifugal force is an **in phase** reaction with the **surroundings** and this type of phase coherence also is *Mach's principle*.

At the time I write this, there are no computers capable of showing us all the **phase** aspects of electrons and/or quarks along with the **surroundings**, so the only **phase** picture you can get today, is by observing these particles using Bohr's motion along with the relative motion laws Ampère himself gave us.

This puts you far ahead of your science peers who know **phase** is of importance but have fewer tools at their disposal to see the **phase** picture in its entirety with the **surroundings**.

To see this yourself, merely view **phase** as

associated with **motion** similar to the way both Bohr and **Ampère** did. The correct method to view **phase**, this way, was given to us by the **relative motion** laws of **Ampère**. <http://www.amperefitz.com/lawrm.htm> (Click link.)

From Britannica 2009 DVD "**Andre M. Ampère**: French physicist who founded and named the science of electrodynamics, now known as electromagnetism. **Ampère** was a prodigy who mastered all mathematics then extant by the time he was 12 years old."

The big argument is about seeing the microcosm as Bohr, Mach and **Ampère** saw it or as some in modern quantum theory see it. I'm not saying Bohr's entire concepts are right. What I am saying, is that Bohr, by using **motion**, the way he did, was automatically taking various aspects of **phase** and the **surroundings** into consideration. This is fairly easy to see using the laws of **Andre M. Ampère**. [ampere's Laws](#)

It's the various quark scalar resonance spin frequency peaks or frame rate resonances giving us these electrons whose orbital frequencies are probably the highest frequencies in our frequency bandsread producing our space and time or our spacetime.

That this spacetime produced is only for us and not

for the entire universe is apparent when we see we must use different rules and math for each different frequency spin/orbit system as QED (study of electrons) uses different rules and math from QCD, the study of quarks.

Therefore what we see as space, time and motion are really only phase relationships between us and our surroundings.

And this is why we can't notice motion in the microcosm nor anything beyond the Hubble limit.

Galaxies, stars, electrons and quarks all create space at different spin frequencies (Different spacetime realms/different gauges).

They all repel -- via their spins -- in this manner too because they all have gyro inertial qualities that will twist them away from the attracting positions (as long as they are perfectly free).

Again so you don't forget: This attractive binding force does not fall off with the square of the distance. The number of binding pairs is what falls off with the square of the distance. This tells you **the present belief - - fostered by the universities - - that the strength of these individual quantum (sigma) bonds diminish with the square of the**

**distance** is absolutely wrong !

While pairs of electrons spin bind to cause magnetism and sigma and pi chemical bonding, quarks spin bind with nearby quarks, in the earth, to cause gravity and with distant quarks in the surrounding stars to cause inertia.

Please remember, this is a Schrödinger frequency universe and in it we have

**Fitzpatrick's RPR - - Relative Phase Relationships.**

Mach was right: Surroundings are involved

An individual quark is many magnitudes more dense than a neutron star or even a neutron. An individual quark approaches black hole density. This means the density inside a proton or neutron slows time so much that the three quark frequencies no longer are in phase as they are at the surface of the proton or neutron. This is the reason for asymptotic freedom of the quarks.

Strong force has to be looked at in an entirely new light! And there is more to see about quarks:

Even though we see quarks as tiny, they have a size and they spin like electrons, planets, stars, galaxies and super clusters. The sides of these spinning quarks are already pretty far up in speed and close



to the speed of light. It doesn't take very much more -- in spinning a gyroscope or flywheel -- to get the translational motion of some of these quark sides even higher up the speed of light asymptote curve giving us even stronger binding with the surrounding stars. It may be hard for most people reading this to believe that when they are on their bicycle, it is the strong force of the quarks that are holding them upright. **The hypothesis of strong force containment is wrong!** Berkeley, Mach and everyone else who said the surrounding stars give us our inertia were right on the mark. It's the strong force caused by the quark spin. The quark strong force also gives us our centrifugal force. That's a **Fitzpatrick Fact**.

We notice the electron produced speed of light or  $c$  or  $3 \times 10^8$  meters per second because of the electron scalar spin frequency.

We notice the quark produced speed of  $9 \times 10^{16}$  meters per second or  $c^2$  as acceleration because it is too fast a speed for our spacetime realm. Nevertheless we get this almost instantaneous speed of gravity, that we can't measure in our reference frame, because of this -- too high for us to measure -- quark scalar spin frequency. This is



consistent with what Yale University taught Van Flandern and what other astronomical schools teach their students, that gravity acts almost instantly. This is closer to what Newton thought as to what Einstein thought it did. [Van Flandern](#) has shown us that gravity has no aberration yet light does, proving Yale University and all the other astronomy schools to be right.

But as Wheeler and Feynman have taught us, we can never measure this space, produced by the quark spins, in our spacetime realm but we can and do notice it as an acceleration. This is why gravity is equivalent to acceleration. This is why we have the principle of equivalence.

And now you know the reason for the principle of equivalence or why gravity can not be discerned from an acceleration. But more importantly now, you know where  $c^2$  comes from and you also know why  $E = mc^2$

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Also you now can unify all the forces and see what space and time are by using Fitzpatrick's **RPR** - - -

## Relative Phase Relationships.

It's all phase relationships!

The surrounding stars are involved (Mach's principle) so this makes it RELATIVE Phase Relationships.

It's **R P R**

Billions of dollars are spent every year on gyros that hold to the surrounding stars yet the movement away from Mach's principle gets stronger and stronger every year. This I don't understand at all!

It's nothing but **RPR**

**RPR** is so simple and so important yet everyone went to sleep on the switch with this.

In every case the forces from the stars are equal or close to equal, in strength, to the known forces yet the universities have entirely missed this. To me this is simply incredible!

I've shown, in numerous papers, not only how the 4 fundamental forces are unified by **RPR** but I've shown how space and time are also being produced via **RPR**.

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