



From the book: [*New light on the Elaborate Design of this Universe.*](#)

[5-21-2013](#)

or in pdf

[*elabdesign.pdf*](#)

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Shedding a bit of light on the

Elaborate Design of our Universe

Since you can't judge a book by its cover, we are going to give you an **abstract** of this right now so you can decide immediately if you want to read this book or not.

Everyone entering quantum mechanics sees the disparity between quantum theory and '*common sense*' classical mechanics. One reason **why** we have this incongruity is that the microcosm is a frequency world yet our larger macrocosm world here, university experts

claim, is not.

We answer many more of these **whys** in here and this will aid not only the neophyte but also the quantum experts as well because we offer some new ideas that the experimentalists can test.

We also show the **why** in quantum theory because we show that states and quantum numbers are in fact equivalent to phase and frequencies.

Gambling

It's better than winning the hundred million to one shot on the lottery.

Our chances of having a nearby supernova explosion early on — *giving us the elements we need for life* — and then our sun being the right size and having that asteroid hit while the dinosaurs were here and countless other things, all had to happen precisely at the right time to give us this winning lottery ticket that has enabled us to enjoy life on earth today.

The chances that we shouldn't be here today are much more than a hundred million to one.

So say we: **Richard Mark Fitzpatrick** CEO and founder of **Magpul** and

Daniel P. Fitzpatrick Jr. (Authors)

We simply had to write this first **Gambling Chapter** after reading Bill Bryson's *A Short History of Nearly Everything*. It's a book well worth reading!

There is absolutely no doubt that we have to thank our lucky stars — *or whomever else it is you wish to thank* — that we are actually alive and living now even though all of us have but a short time here. As Bryson has shown us, with all the things that had to happen precisely when they did, it's a wonder that we have been given this miraculous chance to be here even for this brief period of time.

It will take us a while to finish this book. We are both willing to put in the effort because it's what we believe. So this book is also — *like our universe* — a gamble!

Here this book will remain, on the internet, for all of you to read, **as we write it**.

In this book we're going to show you **WHY Everything is Happening** the way it is.

A recent **Fitzpatrick** paper ended with this little poem, and with it this book begins:

A bit of Pope [Pope-Britannica](#) & Fitzpatrick here:

"Nature and Nature's laws lay hid in night:

God said, "Let Newton be!" And all was light.

Huygens said, "But Newton didn't tell us **why**

We have gravity and all these objects in the sky."

Huygens [Huygens-Britannica](#) congratulated Newton [Newton-Britannica](#) on his great mathematical accomplishment giving us his gravitational laws, but Huygens also criticized Newton about not finding the answer as to **WHY** this was so.

In this book you will get a **model** that really does *finally* tell us **why**.

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In this model dependent science world of today, you will be presented with a **new** quantum theory [quantum theory](#) **model** — *even better than the standard model* — that gives you the very first 3D, widescreen, **technicolor** picture of reality that is quite a bit superior to that of any models presently being used:

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Also please remember these supremely **important** words of mathematician **Stephen Wolfram**, "*Math can only explain simple things but a **simple model** can explain a complicated universe.*"

Copied from the 2013 Britannica DVD: "**Stephen Wolfram**

born Aug. 29, 1959, London, Eng.

English physicist and author best known for his contributions to the field of cellular automata and the development of Mathematica, an algebraic software system.

The son of a novelist and a philosophy professor, **Wolfram** attended Eton College (1972-76), from which he never graduated, and published his first scientific paper at age 15. He later studied at the University of Oxford (1976-78) and the California Institute of Technology (CalTech), where he earned a doctorate (1979) in theoretical physics at age 20. In 1981 he became the youngest recipient of a MacArthur Foundation fellowship, and later that year he began researching the origins of nature's complexity. He taught at CalTech from 1980 to 1982. Throughout the 1980s **Wolfram** published a series of celebrated papers on what he dubbed "complex systems research." During this period he taught at the Institute for Advanced Study (1983-86) in Princeton, N.J. In 1986."

On **Wolfram's** premise — *or rather our premise even before we heard Wolfram state it* — that **a simple model can explain a complicated universe**, we sought out a model that could explain *why* things both in the micro and macro worlds tended to congeal into central clumps around which there existed various sized orbital states of other entities of far less mass and *why* was there so much empty space between these central clumps of mass in both the microcosm and macrocosm?

Chapter - 7

Schrödinger's Equation

&

Heisenberg's Uncertainty

Also of greatest importance

Collapse of the wave function

In this chapter we solve one of the greatest unsolved mysteries in quantum theory: "**Collapse of the wave function**". [*collapse of the wave function*](#).

In other words how does light, a wave, also suddenly act like a particle where the wave function entirely vanishes.

No one we know of has ever solved this quantum mechanics mystery but we do it right here in this chapter, so hang in there and enjoy this one.

We are certain that our readers will ask the following

question, *"If this is a frequency universe all throughout then why can't we simply use the **Schrödinger Equation** [Schrödinger Equation Britannica](#) instead of using classical mechanics patched with general relativity patches such as we are now doing?"*

Someday we actually will but we cannot do this today because of several reasons one of which is Heisenberg's uncertainty [Heisenberg's uncertainty Britannica](#), which as Niels Bohr showed, while arguing with Albert Einstein, has to be effective in the macrocosm as well as in the microcosm.

Heisenberg, Wheeler and Feynman told about the problems measuring in the microcosm — *a different frequency spacetime realm* — but they didn't tell us **why** we had these problems.

We will show you **why**:

The fact that we have these various *spin/orbit* spacetime realms is the real reason **why we have Heisenberg's uncertainty.**

QED space — *space generated solely by the electron spin frequency* — is only slightly higher in frequency from our frequency space that we can begin to measure at a frequency slightly lower than the electron orbital frequency, so there is only a very

tiny factor of uncertainty when measuring from our realm to the microcosm. This uncertainty factor is greater than or equal to Planck's constant (h) divided by 2π . This is called \hbar and is the smallest unit of electron momentum.

Beware! This Planck's constant over 2π (\hbar) multiplication factor for uncertainty is **only valid** when we measure **in the microcosm** — *and regardless as to what many believe* — nowhere else.

Once you know *why* we have this uncertainty then you also know *why* this \hbar multiplication factor is only to be used in the microcosm.

But measuring from our realm to the macrocosm, the multiplication factor is much, much greater than Planck's constant over 2π ! The multiplication factor is different because we are measuring to several far, far different spin/orbit frequency spacetime realms, more about that below.

The multiplication factor is greater than Planck's constant divided by 2π (\hbar) measuring in the macrocosm because the difference in frequency between our realm and the macrocosm is **far greater** than the frequency difference between our — *space* — realm — *just under electron orbital frequencies* — and the microcosm — *electron spin frequency space* — realm: both of which — *frequency wise* — are relatively close.

Therefore, Heisenberg's uncertainty — *in our new way of looking at this frequency universe* — exists **far more** when one measures outside of ones own spin/orbit frequency spacetime realm toward the macrocosm than our measuring in the microcosm!

The reason for this is simple: those other macrocosm spacetime realms will have a **far more** and far different **spacetime interval** from us.

When measuring in the microcosm you may measure momentum but then you won't be able to *instantaneously* measure position in that other — *spin/orbit* — spacetime realm. **But that is probably only for microcosm measurements. We don't yet know the full extent of our macrocosm measuring problems. What we do know is that we have plenty of problems measuring there:** All this **mysterious Dark Matter and Dark Energy** we **think** we see there show us that.

It is wrong to think we have a $h/2\pi$ factor for Heisenberg's uncertainty in our own *spin/orbit frequency* spacetime realm. What determines the factor for Heisenberg's uncertainty is **only** a difference in frequency — *or frequency spacetime realm* — between the detector and the object being detected.

You will see a quote from the Britannica, later in this chapter, telling us that h is "the product of energy multiplied by time, a quantity called action." This h multiplied by the frequency gives us the energy of a complete energy quantum.

However, this h can't be utilized as well in much of the rest of quantum theory where $h/2\pi$ can. This is referred to as h -bar.

The smallest amount of electron momentum is h -bar.

Now comes the problem:

This is **not** the smallest amount of gravitational or inertial momentum which is — *according to today's scientists* — the much, much, much larger Higgs boson.

We are trying to stress throughout this paper that **this is a frequency universe**.

When you state momentum then you **must give the frequency of that momentum**.

Only use $h/2\pi$ (h -bar) in the microcosm where it pertains to momentum at the electron frequency.

Never use $h/2\pi$ (h -bar) for measurements in the macrocosm which utilizes the much, much larger quark produced, unit of momentum, the Higgs boson: This momentum is at **the square of the electron's frequency**.

As frequency goes up, energy goes up. Higher frequency *means* and *is* higher energy!

Therefore, **we do not multiply by the tiny $h/2\pi$ (h -bar) to get Heisenberg's uncertainty in the macrocosm!**

The **factor** that we have to multiply by, to get Heisenberg's uncertainty in our solar system — *in the macrocosm* — while transferring measurements inside our solar system — *1st spin/orbit spacetime realm* — to our galaxy — *2nd spin/orbit spacetime realm* — is not known but it is an extremely large **factor**.

What's more, the second multiplication uncertainty **factor** for transferring our solar system measurements to the realm of galactic clusters — *3rd spin/orbit spacetime realm* — is far, far greater than that first multiplication uncertainty **factor**. Transferring our measurements to the super cluster realm — *4th spin/orbit spacetime realm* — requires the greatest uncertainty factor.

The Hubble telescope shows this **increasing** — *2nd spin/orbit spacetime realm to 4th spin/orbit spacetime realm* — uncertainty factor to us **clearly** in no uncertain terms!

Therefore: Heisenberg's uncertainty factor is going to be a far, far greater factor measuring in our macrocosm than measuring in our microcosm.

Now here's some new information — *perhaps even published here for the first time* — well worth knowing:

Black holes *contribute* but do not make up **all** the *dark matter* presently believed to exist in our universe.

It is **Heisenberg's uncertainty**, that is giving us **most** but not all of this elusive *dark matter* and *dark energy*, as we try to measure inside of galaxies, clusters and super clusters of

galaxies. Some of this *dark matter* and *dark energy* is actually there, being caused by the spins of the galaxies, clusters and super clusters themselves.

So we have two distinct problems: One is the different kind of space problem and the other is that we can't accurately measure this different kind of space.

If you think this is wrong then consider what general relativity is telling us about things that **move faster or spin faster** compared to their surroundings: in both of these cases, **time slows** and they become more massive while also getting **smaller**.

A super cluster of galaxies has its own spin therefore a certain space and time. But each galactic cluster within this super cluster has **additional** spin therefore, according to general relativity, **time** in each galactic cluster must be **going slower** than in the super cluster as a whole. Not only that but **space** — *or entities* — in each galactic cluster must be **smaller** — *more compressed or massive* — in each galactic cluster than in the super cluster as a whole.

Each galaxy has its own spin therefore a certain space and time. But each galaxy within its galactic cluster has **additional** spin therefore **time** in each galaxy must be **going slower** than in the cluster as a whole. Not only that but **space** — *or entities* — in each galaxy must be **smaller** — *more compressed or massive* — in each galaxy than in the cluster as a whole.

A solar system inside of each galaxy would have **additional** spin than the galaxy itself, so according to general relativity its **time** would be **going slower** than galactic time. And as we previously saw, **space** — *or entities* — in that solar system would also be **smaller** — *more compressed or massive* — than in the larger galaxy.

So a solar system has a different spacetime interval from the galaxy it is in and that galaxy has a different spacetime interval from the cluster of galaxies it is in and that cluster has a different spacetime interval from the super cluster that it is in.

This is exactly the same in the microcosm where the quark is **smaller** — *more compressed or massive* — than the electron via the same reasoning. In the microcosm we have the Hartree approximation [*Hartree approximation*](#) accomplishing the same thing there as general relativity accomplishes in the macrocosm.

Deductive reasoning tells us that different spin frequencies are thus producing different spacetime intervals!

Therefore, this is indeed a frequency universe all throughout wherein the spacetime interval — *although invariant in **one** spacetime realm* — varies from realm to realm. **Einstein might have recognized this if he had accepted these different spacetime realms** the way Wheeler and Feynman saw

them. Einstein believed in invariance of the spacetime interval so intensely that he was disposed in the 1920s to actually change his theory's name from relativity to his '*invariant*' theory because he felt that this was what general relativity was more about. **It was these *different spacetime realms* that Einstein didn't see even though his own *general relativity clearly points it out.***

Since the spacetime interval does indeed vary from realm to realm, Wheeler and Feynman were correct to warn us about our measuring in other — *spin/orbit* — spacetime realms and Niels Bohr was correct arguing with Einstein that Heisenberg's uncertainty exists outside the microcosm as well.

Wheeler and Feynman did warn us about this measurement uncertainty when they told us we could never measure accurately outside of our own *spin/orbit* spacetime realm but somehow our university — *military industrial complex* — experts were asleep at the switch on this one or maybe this was simply another of those things they wished to conceal from us, hoping to catch Snowden [E. Snowden-Wikipedia](#) before he revealed it to us.

Schrödinger's Equation — *if things move slow enough* — gives a splendid and accurately intricate view of the complicated standing wave world in the microcosm. It contains the element phi and what we may actually be seeing in our

macrocosm spacetime realm is phi squared.

Future computers will someday give us a perfect match showing us how the standing wave world of *Schrödinger's Equation* — or the *Dirac Equation* if things are traveling too fast — matches perfectly with Newton's laws (corrected by general relativity).

In the final chapter of *Schrödinger's Universe*, Milo Wolff asked, "What is the origin of space?"

Here is a *quote* from the *Britannica 1997 CD* telling about Einstein's tensor math which "*led him to an essentially unique tensor equation for the law of gravitation, in which gravitation emerged not as a force but as a manifestation of the curvature of spacetime.*"

If you want to know the answer as to what space and time really are, then here it is:

As you see in the above *Britannica* quote, force is a manifestation of space. Also there is **no** such thing as **force** in the tensor math of **General Relativity**. What you actually get — *greatly simplifying things* — is more spacetime, than *average*, where **repulsive force** exists between two objects. In addition, there is less spacetime, than *average*, existing between two gravitational objects that have an **attractive** force between them.

Saul Perlmutter has shown, as in **GR**, that if repulsive force is more spacetime than *average* then we get Einstein's

cosmological constant (exact opposite repulsive force of gravity) and gravity becomes a bi-polar force like all the other invisible forces.

This bi-polar aspect also exists in all the fundamental forces *fundamental invisible forces* giving us our **mistaken notion** of having North or South poles for magnetism and + or – for charge. **Mistaken notion?** Yes!

In phase symmetry every spinning, scalar, standing wave — *even if it's a perfect sphere like the electron* — is a dipole.

Both in the micro and macro worlds in all of these cases, from quarks to super clusters, **attractive force** is caused by being more *in phase* and **repulsion** is a more *out of phase* case. The **space** between quarks, electrons, stars, galaxies and superclusters are all caused by the same *mean or average out of phase* factor.

The people who have read <http://www.rbduncan.com/> and <http://www.Ampèrefitz.com> know that you cannot even begin to understand this universe until you know exactly what space and time are. Our minds seem to be equating the main **scalar** frequency of the electron as a clock that mainly determines what we call **time**. We sense the **spin** frequency mainly determining **force** and **space**. (*We see the spin of the electron causing the magnetic force.*) Also, by reading, what you see in the above links, you will see what force the spin of the quark causes to even distant quarks. Also read: [1/18/2006 The](#)

[Vector Scalar relationship between force, space and time.](#)

By reading what is in the above links you will also know what we see is an average time and an average space. Both time and space are really made up of numerous **quanta** bits, the same as energy. This concept of an average time and space, made up of numerous **quanta** bits of time and space — *a great many billions of separate, different out of phase relationships between every single thing in this universe* — is extremely important to the correct understanding of both time and space. I'll explain this further as we proceed.

*Each electron repels its nearest neighbor by a certain amount of force, the same as each star repels its nearest neighbor by a certain amount of force. **Let's call these quanta too because they come in chunks like energy quanta.** It is these individual repulsive force chunks (quanta) added up and averaged that give us our illusion of space. And it's the same with time as well.*

View these electrons as Niels Bohr did, as spinning spheres, even though we know they are a complicated **Schrödinger** type resonance.

Think of two energy exchanging electrons, with opposite spins, as two *gears meshing*. But these two entire electrons are never involved in **spacetime** light transfers. In fact, only *very minute portions* (a quantum) of the closest sides of the emitting and receiving electrons — *one is spin up and the*

other **spin down** — are involved. And if these closest sides (*a quantum*) "*see*" themselves as close in *impedance* (*both at the same velocity*) which means moving the same direction at the same frequency then they will also "*see*" themselves in the same space and time (on the same **Minkowski** light cone). Thus, they will be able to transfer this **spacetime quantum** of light energy from one electron to the other.

In other words, even though those two electrons are not themselves in the same space or the same time, **an ultra tiny sliver** (*a quantum*) **of their closest sides are.**

From the **Britannica 2009 DVD** "**Minkowski, Herman**: His idea of combining the three dimensions of physical space with that of time into a four-dimensional "Minkowski space"-**spacetime**-laid the mathematical foundations for Albert Einstein's special theory of relativity."

Sigma chemical bonding is a proven fact. It must always be seen as a **spacetime binding force** between a **spin up** and a **spin down** electron whose *very minute portions* of their closest sides are going in the same direction. Light energy is also exchanged, exactly the same way, as a **spacetime binding force**: It's nothing more than a long distance sigma bond that ends up transferring a quantum of light energy. This **spacetime** transfer is between a **spin up** and a **spin down** electron where *very minute portions* of their closest sides are always going in the same direction (*like gears meshing*).

You might say these *minute portions* see themselves in the

same space and time through a wormhole. But the reason they can do this is that space is not this vast empty space we visualize. It's built up of trillions of quantum chunks and if none of them get directly in the way, then these two *minute portions* can actually be in the same space and time together as a Bose-Einstein condensate, or in other words, an impedance matched bond.

One additional thing is very important and this is that **energy only diminishes with the square of the distance when multiple numbers of electrons are involved**. Why? Because it is these numbers involved, in the transfer, that fall off with the square of the distance. Between only two electrons, this quantum of sigma binding energy — *a Cooper pair or sigma bond* — remains at the same strength out to the Hubble limit of distance. Now you see why a quantum of light energy does not diminish in intensity with distance: This is another well-established quantum theory principle. In fact, this is the keystone of quantum mechanics.

Now, here's what Niels Bohr taught us:

From the [Britannica 2009 DVD](#) "Spectral lines are produced by transitions of electrons within atoms or ions. As the electrons move closer to or farther from the nucleus of an atom (or of an ion), energy in the form of light (or other radiation) is emitted or absorbed."

For instance:

If a **quantum** of **violet** light is given up by a star to your eye

then on that star, in a certain time period, an electron that was originally far from its nucleus, dropped to one of the closest orbitals of its nucleus. While in that same time period (*standard model explanation*) an electron in your eye emitted a **quantum** of **violet** light to your senses.

If a **quantum** of **red** light is given up by a star to your eye then on that star, in that same time period, an electron dropped about half the distance (*of the violet quantum*) to its nucleus. While in that same time period an electron in your eye emitted a **quantum** of **red** light (*of about half the violet quantum of energy*) to your brain.

As the electron on the star dropped, the electron in your eye emitted a **quantum** of light energy to your brain. *This is the way it is being explained in the standard model.*

Again, as the star's electron went down to a lower orbit level, your eye electron emitted a **quantum** of light energy to you. (*The standard model view.*)

Thus appears, in **quantum** theory, the concept of a **boson** with the **photon** acting as a **boson quantum** exchange particle. A **quantum** of energy on that star was simply shifted or exchanged with your eye via a **photon** (**boson**).

From the **Britannica 2009 DVD** "**quantum**: the magnitude of all the **quanta** emitted or absorbed is the same in both energy and momentum. These particle-like packets of light are called **photons**, a term also applicable to **quanta** of other forms of electromagnetic

energy such as X rays and gamma rays."

Photons are classed as **boson quantum** exchange particles. Remember, in these **quantum** exchanges, the same magnitude of energy emitted is also absorbed.

From the **Britannica 2009 DVD** "**quantum mechanics**: The probability of a transition between one atomic stationary state and some other state can be calculated with the aid of the time-dependent Schrödinger equation. For example, an atom may change spontaneously from one state to another state with less energy, emitting the difference in energy as a **photon** with a frequency given by the Bohr relation."

Let's look at how a **photon** supposedly works in the *standard model*:

If batter **blue** hits the ball twice as much as batter **red** *in the same time period* then batter **blue** will expend twice the energy as batter **red**.

It's the same with light: as **violet** light being almost twice the frequency of **red** light has almost twice the energy in each **quantum** of light.

But the time period with all of these **quantum** exchanges seems to be associated with Planck's constant (***h***). So if the batter hits the ball twice as much, this gives twice the energy. Since there are almost twice the swings back and forth with **violet** light as there are with **red**, in that same time period, then a **quantum** of **violet** light comes out with almost twice

the energy of a **quantum** of **red** light.

However, all of this is well known to **quantum** theory physicists.

Now we come to something not as well known to all:

You must realize that the sigma type close bondings — *of your electrons here* — also occur with distant electrons as far off as the Hubble limit; not only that but these far distant bondings are at the same strength as close bondings. They must be the same strength because the quantum of light emitted from the star was the same strength as your eye received; this is an agreed upon, quantum theory fact.

The quantum of light from the star to your eye, called a photon (**boson**) in the *standard model*, is being caused by this spin binding shift. However, this particular binding shift is between two distant electrons.

This universe is forever trying to balance via *in phase* spin attractions and *out of phase* spin repulsions. The universe does eventually always balance out because each of these scalar, spinning, standing waves is a perfect dipole.

Therefore, these attractive forces and repulsive forces are always equal: thus we *eventually* always arrive at a, more or less, static, steady state universe.

Where this *in phase* spin attraction happens the *standard*

model gives us a **boson**, which we now see is really only a binding between distant electrons or distant quarks.

Since this *standard model* photon has no mass then it has to be considered nothing more than a simple binding shift or binding exchange between that star and your eye. A simple binding shift would better account for the recoil effect noted in Feynman diagrams. And a binding shift causing other binding shifts, or emanating from other binding shifts, would better account for the various bubble chamber tracks.

The *in phase* type **spin** attraction of two Cooper pair *electrons* has a Fermi-Dirac quantum **entanglement** element similar to the *photon* type Bose-Einstein condensate element to it because space has disappeared (condensed) between the *in phase portions* of the two *in phase* bound electrons.

We have, as part of the standard model, Quantum ElectroDynamics:

QED uses what is called the *square of the amplitude*. These are **spin up - spin down** electron pairs (*like gears meshing*) (*in the same spin plane*) where *a very minute sliver portion* of their closest sides of both the emitting and receiving electrons involved will make a quantum energy transfer because *these ultra tiny portions* (*a quantum*) will sense that they are both moving *in phase* in the same direction at the same speed. What the *square of the amplitude* tells us is that phase is critical.

When you have plenty of time, you can better understand this *square of the amplitude* quantum of energy transfer, if you listen to the **Feynman** lectures. <http://www.vega.org.uk/series/lectures/feynman/index.php>

It's also extremely **important** that you read this very short part of Nobel prize winner **Richard P. Feynman's QED**: <http://www.rbduncan.com/feynm1.htm> Notice how momentous this concept of **motion** is for unification! This makes a great deal of sense when you look at what Ampère found over a hundred years earlier.

****So space, in this all frequency universe, is simply the average of these repelling **out of phase** forces.****

It's as simple as that really.

Since **space** is **nothing more** than the average or mean *out of phase* amount, then it's plain to see that spacetime itself is quantized and photons — *that need more explaining* — need not move at all. Instead — *a quantum (a tiny portion) of* — the closest sides of an electron in your eye and the closest sides of the electron on a distant star you are looking at — *that small in phase sliver of both eye and star electrons* — are both in the **same spacetime realm** even though the rest of those two electrons are not.

Minkowski almost had it. He told us that both the star's electron and your eye electron had to be on the **same light cone** before you could receive light from a star. It's really

that a — *tiny ultra thin sliver* — portion of both electrons must be in phase, therefore — *instead of being on the same light cone* — being in the same spacetime set up. Even Einstein said he owed a debt to Minkowski who not only corrected a flaw in Einstein's math but helped Einstein enormously. Minkowski taught Einstein quite a bit about spacetime and the spacetime interval. It's a shame Minkowski died so early at 44.

In other words in equatorial electron bonding, a spin up electron is binding with a spin down electron, and that — *tiny ultra thin sliver* — portion of their closest sides are bound together with an ***in phase*** bond. This is what is happening in a sigma chemical bond and also with Cooper pairs.

Impedance matching is an important part of every electron to electron binding!

There is no binding unless the frequencies are exactly in phase and both impedances match.

Let's look at what the Britannica tells us about this enigmatic ***h*** (Planck's constant).

Copied from the 2013 Britannica DVD "**Planck's constant**

The dimension of Planck's constant is the product of energy multiplied by time, a quantity called action."

* * *

As the Britannica stated, h is a certain energy during a certain time.

So h is giving you the angle — *if you want to do the math* — of this ultra thin portion of the closest sides of a spin up electron binding with a spin down electron, both in the same spin plane. (*Imagine two gears meshing.*) It's only in this ultra tiny angle that these portions are moving *in phase* at the same **velocity** (*speed and direction*).

Because those two electron portions can have the same **velocity** only during that ultra tiny angle is what **impedance matching** of those two opposite spin electrons is all about!

Since $E = mc^2$ and energy is equivalent to mass then the mass of those ultra tiny sliver *in phase* portions of the closest sides of both electrons (*a quantum*), involved in impedance matching, gives h an *equivalent energy value* of the energy/mass of those **ultra thin portions** that those two electrons are using to bind.

These **ultra thin portions** multiplied by the binding **time** amounts to the "action at a distance" or $6.62606957 \times 10^{-34}$ joule second.

(We believe this is the first publication of what Planck's mysterious h really is.)

* * *

Since the **time** involved in h is the same in every quantum, then every orbital jump must be made in the same **time**. This means longer *higher energy* jumps are made in the same time as shorter *lower energy* jumps. Therefore we can improve on what Niels Bohr discovered by showing it must be the **velocity of a portion** of the electrons that are binding — *both must have a portion the same velocity to impedance match* — that is the cause of the various colors and of the various energies of the various different quanta.

This makes sense as we look at gamma rays that must be caused by entirely free electrons traveling at the fastest speeds, spinning in opposite directions in the same spin plane. But there is more to binding and energy transfer than simply the speed, of both items, being the same: **An ultra tiny portion** of both items must have the same **velocity** (*speed and direction*). We'll go over this extensively as we proceed.

Present science can't tell you what light waves are waves of. We, however, can: light is actually only a frequency and not a wave. It's really nothing but an electron binding operation. You'll see that as we proceed.

Light, heat and radio — *so called* — waves are being produced at the electron spin frequency. But that is actually a tad higher in frequency from our spacetime realm. The highest frequency that we can observe as a solid in our spacetime realm is somewhat lower than the electron orbital frequency.

Those who still adamantly believe in the aether — *proved not to exist by the Michelson Morely experiment* — may now say it's these various spacetime realms — *that constitute aether* — and are responsible for light waves. The answer to that is a sort of **no** but having said that you have to realize that even though space is produced by the *average* or *mean* of a multitude of vector *out of phase* forces, it thereupon actually becomes, in essence, a scalar entity that progresses over us as we remain stationary within it. So if you remain stationary and both space and time — *both scalar hence spacetime* — are a progressing scalar relationship — *about you who remain stationary* — then light and other energy can also possibly be seen as wave like. Getting back to things we see by having these other spacetime realms here, we do see a form of acceleration from the quark spin frequency level — *where its spacetime is produced faster than ours is* — but that comes later.

We like to view — *a quantum of* — light and all other energy **not** as **a wave nor a particle** but as merely a loosening of a binding with the surroundings: In other words, **'energy is merely a binding change with the surroundings'**.

We should amplify that — *light being neither a wave nor particle* — by saying this: it is best to say a quantum of light energy, from a distant star, is transferred to your eye after an electron in your eye — *dropping to a lower orbital* — unbinds with an electron on that distant star and rebinds with an electron in your brain thus transferring that quantum of energy to your

brain.

More about this below:

Massive numbers of Cooper pairs [Cooper pairs Britannica](#) of bonded electrons — *whose closest sides are in phase* — exist at almost absolute zero [absolute zero Britannica](#). This is the Bose-Einstein condensate [Bose-Einstein condensate](#). But a few Cooper pairs — *in phase bound pairs* — do exist even at our temperature and some of us know they can exist as bound pairs even when separated as far apart as the Hubble limit. Light — *while a frequency* — is not really best seen as a wave but is best seen as the result of a shifting binding change where, as you look at a star, a Cooper type spin-up spin-down bond between the electron in your eye, and that distant star electron is lost, collapsing your eye electron to a lower orbital thus adding that energy quantum, it lost, to your brain.

Your brain receives that voltage much like the spark in the spark plug of your car engine receives its voltage *after* the battery circuit, to the coil-capacitor, is broken. Not only that but each quantum in this eye-brain engine, explodes into your brain faster than the individual explosions in the fastest reciprocating engine.

That's what the light, you see, really is!

The proof of this is what we see happening in the interferometer [interferometer Britannica](#): In fact if you read this

then you be one of a few who knows *why* the interferometer works the way it does.

One type of interferometer has beam splitting mirrors. The current explanation is that if the beam does not go through the glass but is only reflected from the partially silvered side of the mirror then each quantum of light in this particular leg *gets phase reversed* and can cancel out a quantum of light from its opposite beam leg. This was discovered by Humphrey Lloyd [*Humphrey Lloyd Britannica*](#) in 1834.

Our explanation is essentially the same but with a slight twist: Our explanation depends on the *in phase* bonding of Cooper pairs.

Remember, Cooper pairs are spin-up spin-down. They are thus equatorially bound — *their equators lie in the same plane* — with tiny portions of their closest sides *in phase*. Thus we have an *in phase*, long distance, Cooper pair type bond: this bond being produced by those ultra tiny portions of their closest sides that are *in phase* (*a quantum*).

Now, take something to a mirror and try to read it. Even though the mirror image is not reversed up to down or left to right, something else happens: You can plainly see that the image you are trying to read in the mirror must be read backwards from right to left instead of from left to right. In other words the *phase* gets reversed. However — *as Humphrey Lloyd showed us* — in this leg of the interferometer giving us a

phase reversal of 180 degrees for a Cooper type bond in this leg the light must be reflected directly from the silver coating and not through the mirror glass itself.

Why won't an ordinary mirror reflect and cancel the 180 degree out of phase quantum?

Because going through the glass changes an electron's spacetime enough where it can no longer match the electron in the opposite leg in binding frequency!

Each leg on the interferometer must incorporate an **equal amount of glass** for the instrument to work!

Our spacetime **intermediate frequency** goes through glass slower than it does through air, so each leg of the interferometer must have equal spacetime consistent legs.

We tell all about **intermediate frequency** in Chapter 10.

Remember what we said: **** Space, in this all frequency universe, is simply the average of these repelling **out of phase** forces.****

Our spacetime **intermediate frequency** "sees" more space in glass than it does in air because in glass there are more repelling forces. And the higher the frequency the higher the space that will be "seen" by that frequency: this is why **blue** light is bent more than **red** light by a prism. The higher **blue** frequency "sees" more space in the prism than the **red**

frequency so the **blue** frequency bends more.

The reason that we only see one type of space is because we have only one, electron spin, **intermediate frequency**.

If the path of one leg has more glass then there is **no interferometer** because the excess glass on one side has changed the spacetime consistency of that leg too much for the electron on that side to bind with an electron in the opposite leg.

If the spacetime consistency of one interferometer leg is changed — *compared to the other* — then there cannot possibly be any impedance matching with the quantum in the other 180 degree out of phase leg. <http://www.amperefitz.com/interferometer.htm>

An electron, 180 degrees out of phase — *spin down* — in one leg can completely **bind with** and knock out an electron— *spin up* — in the interferometer's other leg: The two cancel each other. No light at all is seen in that detector.

Now you know more about interferometers than most scientists do.

What we are telling you — *present science doesn't* — is that light doesn't **really** move through the interferometer legs. Instead a Cooper type **in phase** bonding occurs through those legs at the **same rate** that we see space being built. And that is the real secret to the interferometer.

So we are not seeing the velocity of a beam of light; we are seeing the rate or speed that the electron spin frequency space is being built.

Now you know *why* an interferometer *really* works.

And you know a bit more about spacetime. And there is more to come about space and time.

Now you also know *why* photons don't really have to move at all. In fact, **they don't move!**

Here comes the **important** question now: Why is it significant to see that photons do not move?

Because the **important** thing you now know is that light is not a particle nor a wave. Light is merely a binding change.

All energy is produced via a quantum binding change where a binding with the surrounding stars is switched to a close binding. **This is all energy is!**

All energy — *whether fission, fusion or chemical* — is binding energy that relates to the surrounding stars!

Bindings — *binding force* — can neither be created nor destroyed but *can be switched from surrounding stars to near, creating energy.*

Bindings — *binding force* — can neither be created nor destroyed but *can be switched from near to surrounding*

stars, creating inertial mass.

This is *why* we have Einstein's $E = mc^2$.

But this is only a general description of *why* $E = mc^2$. The more exact description comes in Chapter 13.

Please remember what we said **space was**, earlier in this chapter.

****Space, in this all frequency universe, is simply the average of these repelling **out of phase** forces.** This is so important that you will be seeing this again and again.** Remember, this frequency produced space is only good in one particular spin frequency spacetime realm.

If light is merely a binding change then the Michelson-Morley experiment — *that had a null in all directions* — makes perfect sense because light does not actually move. **Light has no velocity; it's not a beam that moves in a certain direction.**

Yes, it looks like light is moving because ****Space, the average of these repelling **out of phase** forces.**** does indeed change as it moves at the scalar speed of light over us.

What is being seen, instead of this photon speed, is the building of space or speed of change of ****the average of these repelling **out of phase** forces.****

This space that we can measure is a scalar creation at the speed of light. Even though light is only a binding operation and our so called light beams have no real speed of their own, the concept of relativity, nonetheless, comes out correct because space builds at the speed of light.

A wrong initial speed of light concept nevertheless gave a correct relativistic solution.

Things in space certainly do change with time: this is what gives us our scalar entity of time.

Space also is scalar as it is constantly being produced thus spacetime is scalar, however, motion is not scalar; it has a vector or directional quality.

But the essence of all of this is that Milo Wolff's scalar, standing wave universe must, of necessity, **keep both space and time scalar to the average or mean** — *regardless of any individual vector motion* — **in every reference frame.**

It has to do this to remain a scalar, standing wave universe.

Since both space and time are **scalar** — *extending equally in all directions* — then when you are looking a distance in space you are also looking back in time. Every astronomer knows this.

Now we ask, **why does the speed of light remain the same** — *independent of both source and observer* — **in every reference frame?**

The answer is simple, **Minkowski's spacetime** — *made of quanta energy pulses* — **moves at a scalar speed of light, over everything.**

Each of these quantum energy pulses is a click of our time clock and a quantum of our space. Milo Wolff's in - out energy whereby electrons reproduce themselves may even have quanta pulses higher in frequency than we can measure. This is therefore, **Minkowski's spacetime.**

This is also why when you look out into space that you also look back into time. The timing, of when each of these quantum pulses can occur, electron orbital period and the time period of Planck's constant are all derivatives of a tri quark orbit frequency. Sorry it took us until the year 2013 before we could explain to you exactly why we had **Minkowski's spacetime.**

Albert Einstein most certainly made a prophetic statement in 1954: because with that November Scientific American article and this book in 2013, this year indeed marks the beginning of a new phase symmetry science and as Einstein said, *"nothing remains of my castle in the air, gravitation theory included, [and of] the rest of modern physics."*

This is not, however, the destruction of quantum theory; this is merely making it more complete. **This is, nevertheless, the end of the standard model along with, as Einstein stated,**

much else. We are making quantum theory more complete by stating that not only the photon but all the other force carriers such as the W^+ , W^- , Z and the Gluons are simply the result of these binding operations with their respective same frequency surroundings and none of these force carriers really move. Bosons do not exist: they are merely impedance matched bindings!

Our answer as to *why* and how this really happens may even simplify significant problems yet inherent in the *weak force* where the W and Z particles are nothing like a no mass no charge force carrier particle like the photon. But that is to be expected with the W and Z force carriers of the *weak force*, because if the rules for gauge symmetry are applied to the *weak force* it gives results that are in direct contradiction to the data.

Once this is known to be a simple binding operation, then no force carrier particles have mass or charge. So this may help settle the present *weak force* argument over those W particles having mass or not.

Those who publish first have the right to name things. If this book turns out to be the first published account of these force carriers being a simple binding arrangement and also if we are right about that then we suggest that this spot where this binding takes place is called the Minkowski spot. He gave us the light cone because he clearly saw that we were separated

from distant stars in both space and time and for us to see those stars the light from us to them had to meet in only one place. And it does.

Since ****Space**, in this all frequency universe, is simply the average of these repelling **out of phase** forces.** and providing no standing wave entity — *of any kind whatsoever* — exists directly between the in phase binding of the closest sides of these two spin up-spin down electrons then this tiny Minkowski binding spot is in the same space and the same time even though both of their respective electrons are not.

See: spacetime is really quantized!

If Minkowski would have lived then he might have told us that too. In our estimation, he was one of the great ones.

Please remember Minkowski. And remember that spacetime is really quantized. It comes in ultra tiny quanta chunks like energy quanta.

And please remember that none of these force carriers move. **These are simply distant electrons or quarks binding**. The Higgs boson is simply two quarks binding.

None of these force carriers (**bosons**) have a speed!

The speed of light that we *think* we see in this frequency universe is really the speed of change of ****the average of these — space producing — repelling out of phase forces.****

In other words, the speed of light that we *think* we see in this frequency universe is really our **I.F.** frequency (*Intermediate Frequency*) in our own physical superheterodyne system in this frequency universe.

God, We hope this doesn't turn out to be a long, long book because we've got a lot more things to do in life besides just sitting here writing this thing.

But it is worth sitting here and putting all this together if we can finally show — *for the first time* — where this so called but mistaken speed of light emanates from — *and publish* — things like ****Space**, in this all frequency universe, is simply the average of these repelling **out of phase** forces: (*space for us is being produced via the electron spin frequency.*) **This is our spacetime continuum or our Intermediate Frequency.** **** Remember, this frequency produced space is only good in one particular spin frequency spacetime realm.**

This is the question that has been asked — *with no answer until now* — for over a hundred years: Why is the speed of light a constant?

Why is the speed of light independent of the velocity of the source and independent of the velocity of the observer?

The answer is, light is merely a binding change with the surroundings: It has no speed!

Thus we solve one of the greatest unsolved mysteries in quantum theory, "**Collapse of the wave function**".

And dear reader, you have seen this answer here first!

I hope Maxwell doesn't turn over in his grave as more people see this answer.

Want more? Here's the link for this **entire book that we** *(have finished)* **are still writing:** [Entire book we are writing](#)

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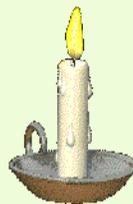
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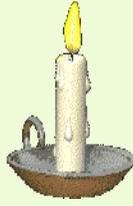
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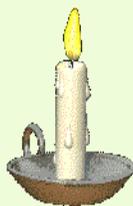
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Copied from the 2013 Britannica DVD: "gravity wave also called gravitational radiation:

the transmission of variations in the gravitational field as waves. According to general relativity, the curvature of space-time is determined by the distribution of masses, while the motion of masses is determined by the curvature. In consequence, variations of the gravitational field should be transmitted from place to place as waves, just as variations of an electromagnetic field travel as waves. If the masses that are the source of a field change with time, they should radiate energy as waves of curvature of the field."

Evidence for gravity waves was obtained by studying the changing orbital period of a neutron star binary, resulting in the 1993 Nobel Prize in Physics.



If you copy this page with its [links](#) to your computer then you will have some other pages ([links](#) - both [htm](#) and [Adobe pdf](#)) to read because I've only barely scratched the surface of things in this short paper.

Fitzpatrick's website is at <http://www.amperefitz.com>

Another older website carrying Fitzpatrick's works FREE is:

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While all the links on this page are OK and presently working, unfortunately only about two thirds (2/3) of the links I gave, years ago, as proof (click & see:

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published in the year **MMVI**, are now still working **BUT** your search engine will

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& super popular now:

[*QED — Feynman's Strange Theory of Light and Matter*](#) "Feynman's Strange Theory of Light and Matter"

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<http://amperefitz.com/answers.to.mendel.htm> "Dan Fitzpatrick comments on Theoretical Physicist Mendel Sachs' Beliefs."

<http://amperefitz.com/quarkspin.htm> "While the electron spin causes magnetism, GRAVITY & INERTIA are caused by the QUARK SPIN."

<http://amperefitz.com/abstract.htm> "ABSTRACT of scalar, standing wave concept."

<http://amperefitz.com/lawrm.htm> "It all begins with this all important science law."

<http://amperefitz.com/energy.htm> "All energy is a form of binding energy."

(science) e-letter by Fitzpatrick.

<http://amperefitz.com/dark.m.e> Why NASA tells us we have 72% Dark Energy, 23% Dark Matter and 4.6% Atoms.

<http://amperefitz.com/gold1.html> More wave and scalar wave questions answered by Fitzpatrick.

<http://amperefitz.com/fermbos.htm> ELECTRONS are fermions but not when paired spin up - spin down."

<http://amperefitz.com/bond.strengths.htm> "Sigma Bond strengths in the microcosm."

<http://www.amperefitz.com/acceleratingexpandinguniverse.htm> "Accelerating, expanding universe."

<http://amperefitz.com/not.quite.everything.for.a.theory.of.everything.htm> "Not Quite Everything for a Theory of Everything."

[Schrödinger's Universe](#) **Schrodinger's Universe**

<http://rbduncan.com/why.we.have.gravity.htm> "Why we have GRAVITY and why we have Centrifugal Force.

<http://amperefitz.com/einsteins.blunder.htm> "Einstein's Biggest Blunder — Wasn't?"

<http://amperefitz.com/plawrm.htm> "Electrons normally repel BUT . . . " says Dan Fitzpatrick Jr.

http://www.rbduncan.com/letter_june2004.htm "And Hubble warned us this was NOT an expanding universe."

<http://www.rbduncan.com/binary.htm> Binary Stars act exactly like Electrons.

<http://rbduncan.com/TOEbyFitzpatrick.htm> A "Theory of Everything" by Daniel P. Fitzpatrick Jr.

<http://rbduncan.com/boson+.htm> Bosons?

http://www.rbduncan.com/letter_june2004.htm Newton and Einstein only gave us HALF the story.

<http://www.rbduncan.com/mybook.htm> "A New Science Tool" (science) e-book by Fitzpatrick

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<http://amperefitz.com/lisiimp.htm> "Why Garrett Lisi's Model is so important."

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"Ampere really gave us this Relative Motion Law in 1825 for things he knew were moving in the wire (electrons)."

<http://amperefitz.com/relMlaw.pdf>

"Fitz talks about some basic problems in physics." — by Fitzpatrick.

<http://amperefitz.com/3dec2006.pdf>

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A radioman sees us all as radios tuned in to this universe.

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Is Saul Perlmutter explaining the reason for us having the principle of equivalence?

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"All energy is a form of binding energy." (science) e—letter by Fitzpatrick.

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"Shedding light on Energy Quanta."

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