The Quantum Question

Introduction

Is it possible that Newton was right all along? Is it really a good idea to bet against James Clerk Maxell? Should we consider that the Michelson and Morley 'ether wind' experiment gave insight into the mechanics of gravity instead of failing to support the ether? Did anyone consider that light was 'traveling between' the molecules[1] of water instead of being 'transported by' the water like a sound wave? Better yet, is it possible that the particles are indeed waves? If you are familiar with these experiments, you probably think I'm a proponent of particle theory. Nope, I plan to introduce you to waves from a fundamentally different perspective.

The Stern-Gerlach experiment - a glance

In my opinion, there is another interpretation to the Stern-Gerlach experiment. I suspect the designer intended it to be one of those plain vanilla experiments designed to allow measurement of physical qualities such as "speed of," "mass of" and "field of" particles. However, it was a dismal failure as befits only the most extraordinarily insightful experiments. I only recently learned of it. When I investigated the details by looking up the original paper,[2] I could not get access to the original paper, or at least an English language interpretation. Using popular rewrites, I predicted the results based on a description of the method without looking at the original published results. When I then looked at the popular interpretation of the experiment, it was as if I missed the easiest answer on a semester end test. On reevaluation, I found that the experiment might support my long held personal concepts of matter, so I started this paper.

This is going to sound crazy, but the early 1900s physicists was very tightly controlled by a very few influential people, not unlike the days of the inquisition. To get a job as a research

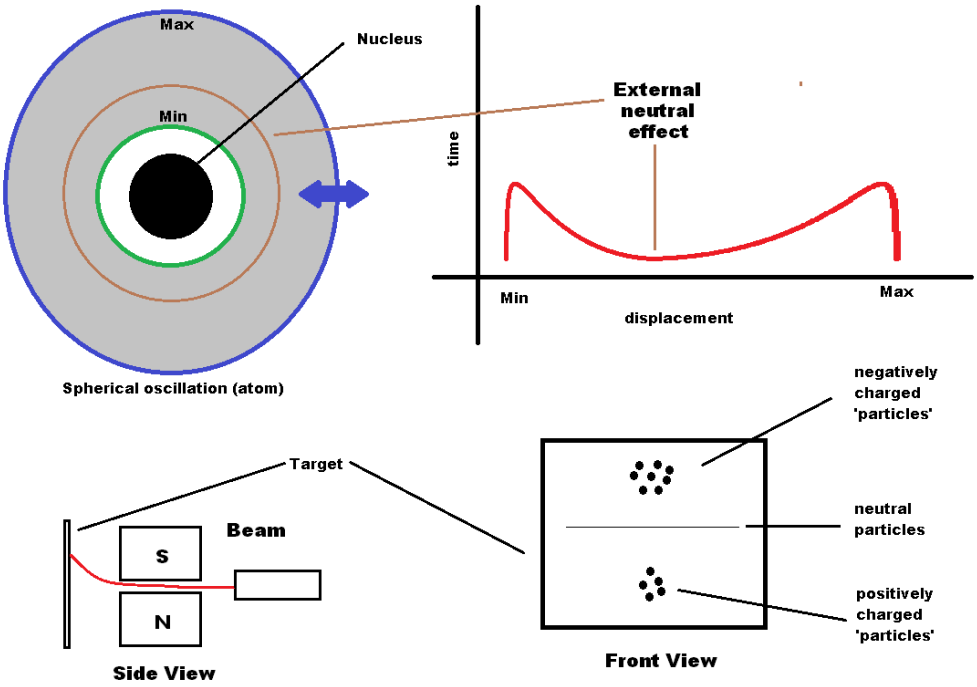
[1] Molecules are the transmission medium when sound travels through water, so the sound travels in relationship to the water. When (if) a photon travels through water what is the transmission medium? If the transmission medium is the ether can you measure the speed of the either if your instruments are made up of the ether and traveling the same rate and direction as the medium?

[2] This is what the internet is supposed to be about, not Facebook and Twitter, they are most suitable for telephones. Twits tweet. Hey, it's my paper and I'm old and not getting paid, I'll say what I wish!

physicist one had to have 'big money' support or be independently wealthy. A few well-known people controlled funding both directly and indirectly and politics permeated physics because of government support. One Nobel Laureate, Dr. Einstein felt there was something wrong for decades and indicated his feeling. It may have been his gentle manner and grace, but he did not get the attention he should have. His position was there was no physical explanation that covered the mathematical methods used to describe the results of experiments.

Currently there are many methods to get the correct answers to problems involving quantum concepts by using workarounds. If you've graded homework, you are familiar with workarounds. A workaround is a less desirable method to accomplish a goal when the preferred means is not available. I hope to prove that spin[3] is one of those workarounds by providing something Dr. Einstein considered essential - a physical foundation to mathematic methods.

Typical Current Discussion



Stern Gerlach Experiment

[3] Spin in this case is a property conferred to atomic particles to explain why certain results of experiments where results are discreet in nature when a continuum result was expected.

This experiment of 1922 triggered the search for quantum effect explanations. As depicted above, the setup was a beam of silver atoms[4] passing through a magnetic field. The researchers expected to see a deflection of the particle because of electron precession in the magnetic field from the magnet(s). The experimenters expected a random distribution of silver atoms deposited on the target. They expected the distribution because of random movement of the outer shell electrons. When they ran the experiment they did not get a single continuous distribution of particles, there were two separate distributions (areas of impact). Even more annoyingly, one area was significantly larger than the other area.[5] I imagine they repeated the experiment many times before the results were accepted!

The experimenters expected a continuous linear deflection of silver atoms because movement of charged electrons in the outer shell of the atom should create a random force perpendicular to the magnetic field (precession). They expected the effect to be significant due to extremely high velocity of electron particles orbiting the nucleus. The velocity of the charged electrons and their fixed charge should impart a random force to the silver atoms causing their diversion. However, when they ran the experiment, some atoms deflected to toward the south-pole and some toward the north pole of the magnet. More confusingly, there were more deflections in one direction than the other direction! Further, it seemed that each deflection was a specific discreet distance instead of a continuous even distribution between the extremes.

This began a century long search for physical and mathematical method to explain the deflection often repeated experiment. Various math solutions came to the forefront resulting in successful workarounds that even predicted the existence and properties of new elements and sub atomic particles.

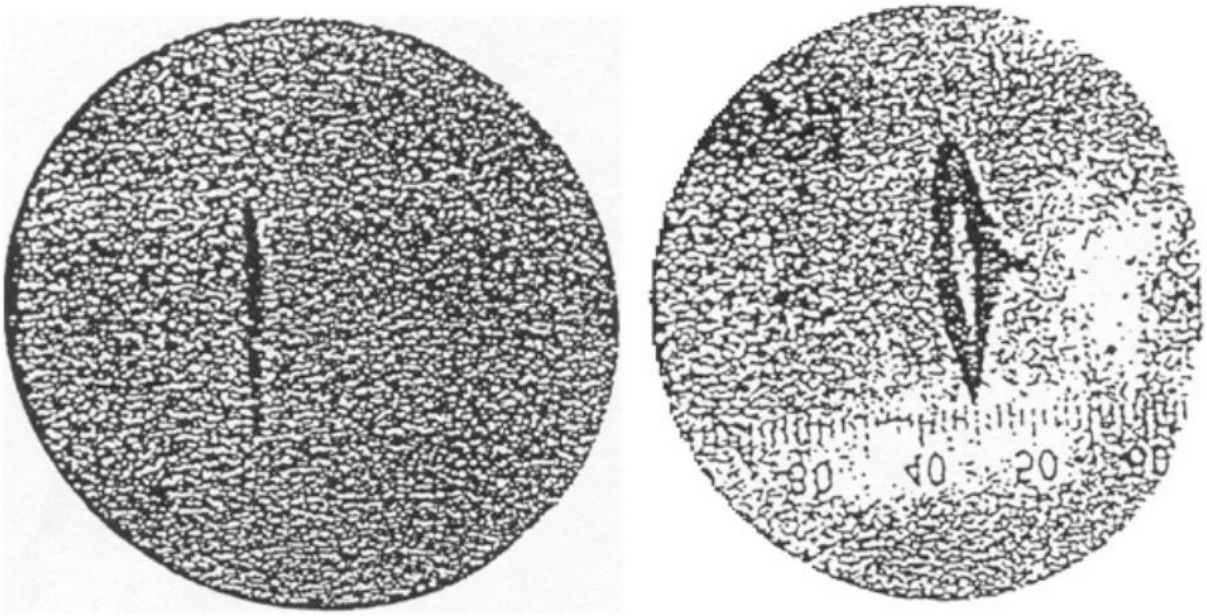
The Actual Results

The researchers directed a beam of silver atoms through a slit onto a target resulting in image to the left. This is the image without magnetic influence. The image to the right is with magnetic influence. I believe the vertical line was supposed to widen and the gap without impacts was the surprise!

[4] The beam was created by evaporating silver vacuum and allowing it to escape the boiling system through a pair of holes toward the magnet(s).

[5] A slick animation is available at http://toutestquantique.fr/spin/ this video is LOUD!

I would draw your attention to the larger number of impacts to the right of the gap as opposed to the left of the gap. I conclude that this is because of the increased dwell time with the spherical field extended.



Some notes about the experiment. This experiment was conducted in an evacuated jar with a heater heating the silver into its gaseous state - probably about 1,500 degrees C. They collimated the silver atom beam by passing it through two openings before traveling through the magnetic field - the last of which was a slot. This is only a guess, but the greater width of the output at the top of the result is probably misalignment of the initial opening, which was probably circular. They shaped the magnetic pole piece for reduced area to increase the magnetic field strength and increase the sensitivity of the experiment.

An Alternative Explanation

My goal here is to accomplish the task of explaining the results in physical terms. To do that, I must challenge some generally accepted knowledge and make some contrarian assumptions.

Background

The first assumption I wish to challenge the concept that there is an electron such as the particle visualized in the Bohr Atom. In its place, I propose an outer 'shell'[6] consisting of a spherical oscillation. Further, I do not accept the concept of rotation around a nucleus but rather oscillation toward and away from a point within the 'shell'.

Spherical Oscillation

You must be asking the question, **"What is oscillating?"**

Celestial Impulse

Consider that our universe began as a **Celestial Impulse**. This is very similar to the big bang theory. The big bang concept is currently acceptable science and well known and elegant enough to steal - so steal I will, though with remorse.[7] I will offer differences between the Celestial Impulse and Big Bang concerning models of the impulse source and impulse object. I can illustrate my reasoning for this using the analogy of a hammer (impulse) and anvil (**Celestial Medium**) respectively.

Hammer and Anvil

In this analogy, both the hammer and anvil confer unique characteristics to the acoustic waves within the anvil. We can illustrate the influence of the medium and source of impulse by the hammer and anvil. In the case of the hammer the maximum frequency and amplitude of the wave are determined by velocity, mass, elasticity, and velocity of the hammerhead and even properties of the handle. The same properties of the anvil contribute. In the anvil, the physical properties of the material of which the anvil is constructed, including elasticity, density, malleability and so forth determine its response as a medium of propagation. If we strike the anvil with light hammer it gives one sound, a heavy hammer gives a different sound, as does a wooden mallet. Comparing the analogy of hammer and anvil to Celestial Impulse, we have little knowledge of the medium (anvil) and, to me, absolutely no insight regarding the impulse

[6] In this case the shell is the domain or range of movement of a spherical oscillation. Later I will refer to it as a membrane. When combined with other spherical oscillations the outer most area of influence of the least energetic spherical oscillation corresponds to the concept previously designated as the outer electron.

[7] The Big Bang Theory show was quite a success, but never has an acclaimed comedy been called 'Impulse', yet. So I'll take advantage of the name recognition of Big Bang.

(hammer). The point is that while the hammer and anvil give us a concept of ringing (wave) in space, it is an imperfect analogy. I mention these things here as an amateurs introduction to the concept of spherical oscillation generation.

Spherical Impulse

Another conceptual analogy is an explosion in a liquid medium. Even though a relatively spherical impulse, such as an explosion, in a nearly incompressible liquid, such as water, seems to give a more insightful analogy, it is only an analogy to draw attention to more meaningful observations. We've seen the movie scenes where the depth charges explode near submarines.[8] The value of this analogy is that it is an impulse within a fully encompassing medium. It is an interesting visual analogy for the big bang, but how did this singular impulse create all these spherical oscillations?

Celestial Eddies

Question: **Why is there not a single wave that propagates throughout the Celestial Domain?** When you excite a liquid such as an ocean with earthquake, it can create a tsunami (wave) that can and does travel for thousands of miles. The tsunami is largely unchanged during that travel except for effects caused by the ocean's floor.

The underwater explosion is a longitudinal wave that displaces matter away from the original impulse. The Tsunami is a transverse wave that displaces matter at right angles to the longitudinal wave. When a longitudinal wave (moving toward and away from the impulse) encounters a discontinuity (such as the ocean surface), it is converted into a transverse wave. When the acceleration at the surface exceeds the restoring force of gravity (the gravity gradient toward the center of the earth) and the restorative force of the weight of atmosphere (much smaller but nearly omnidirectional force) eddies of water may be separated from the body of liquid.

If you've ever seen slow motion pictures of a drop of milk, (white) falling into another liquid (clear) the milk's rebound might give a visual picture that is wrong in nearly all aspects except

[8] I hesitate to use this analogy because the visual indication is misleading without some clarification. The visual part of the explosion is primarily gas bubbles created by the burning of the explosives. Their thermal contact (conductive and radiant) with the relatively cold water causes them to cool and contract very quickly giving the appearance of an event that returns to initial state without longitudinal wave propagation. The wave from that explosion propagates with the same characteristics as an earthquake, just a few order of magnitude less energy.

one. The drop of mild that rebounds from the water becomes a spherical oscillation while it is weightless. It also demonstrates that spherical oscillation can occur at density gradients. The variety of primitive particles in our universe strongly implies either multiple impulses or gradients in the Celestial Domain.

Collections of Eddies

I am claiming that the Celestial Impulse has created innumerable **Celestial Eddies** that we recognize as elementary physical particles. I further claim that discontinuities of unknown types may be responsible for the variation in eddies. I also claim that an electron is probably the combination of three of these eddy types (quarks) in its core.

I do not claim that collections of quarks are concentric (with the more energetic contained within the other less energetic) but consider it a strong possibility. It is possible that the three quarks in hydrogen have a mutual attraction that, like the attachment to the outer shell keeps them in close proximity.

I do feel that the quark's influence on the outer shell determine the external characteristics of hydrogen.

New Glossary

In order to stop the dancing around the "what we know now as" terminology I have created a Glossary of terms between the existing philosophy and my philosophy.

Celestial Domain - All that we perceive, directly or indirectly

hether - Celestial Medium, Ether, Higgs space - The original ether was probably envisioned as a sea of particles, much like a body of water. My vision of the ether is much more familiar. Instead of electromagnetic force requiring a physical particle for its existence, the perceived particle is a result of its existence. To take this a step further I conceive of the hether to be the force responsible for the increasing size of the universe.

hong - The original Celestial Impulse or Big Bang responsible for the increasing size of the universe.

have - The base wave that was created by the original Celestial Impulse. The only need for this wave is to visualize the edges of the hether. There is evidence that existence, as we perceive it began in one vicinity and is expanding to other areas. This wave may be continuous, expanding

forever like a gas escaping a cylinder in a vacuum, or it may be the result of an impulse in an elastic medium. For these purposes it doesn't matter, but it is something to keep in mind[9].

harticle - Spherical oscillations that we perceive as particles.

hecton - Spherical oscillation equivalent to an electron.

hucleus - Spherical oscillation that is a bundle of hprotons and heutrons.

Celestial Impulse vs. Big Bang

The reason I renamed Big Bang to Celestial Impulse implies two concepts, namely that it happened somewhere far away and that it was a step function meaning it was immediate if not instantaneous. I have not perceived current Big Bang characterization as excluding these two properties, I only want to emphasize them. The important implication of the far away (location) is that it infers that any resulting field has a miniscule gradient in our vicinity and for our purposes. The step function infers that the impulse has a high frequency component capable of stimulating (creating?) high frequency events. In our case, the result is creation of the most energetic primitive spherical oscillations, which we perceive as particles.

Why is the Celestial Impulse different? First, universal conformity is boring. Second, when I mentioned tsunamis and the ocean's floor, it was to point out that anomalies other than the transmissive medium may exist. We can speculate about the quantity and origin of anomalies between the origin of the Celestial Impulse and here in order to justify the creation of spherical oscillations, but it would seem that the ubiquitous distribution of these spherical oscillations would indicate that any perturbations occurred quite soon after the initial impulse. Candidates, for causal perturbations might be black holes, after all the singularity would add a high frequency component. Eh?

Third, we have no assurance that this is the only Celestial Impulse and not even the first Celestial Impulse. Interaction between Celestial Impulses is worth examining, but one would expect that any wave would travel through the medium without affecting by any other wave[10] ... unless ... there is the possibility that the hether doesn't have infinite elasticity.[11]

[9] Captain Kirk should know what to expect when he reaches the end of the universe!

[10] Superposition would increase the wave's magnitude but return to original values after interaction.

[11] The ability of the hether to saturate is a slippery and squiggly bag of worms. Consider what that would do to black holes! Consider what that would do to time travel! Consider that is the actual source of the Big Bang!!!

In other words, the intensity of a wave is limited (not linear) at a certain intensity. Would that intensity be the same as near the initial impulse or would the saturation level diminish with the cube root of radius like non-saturated fields? The existence of Black Holes would tend to indicate that there is no limit to heather intensity. Or is it saturation that causes Black Holes?

Without the Celestial Impulse, there would be no differentiating between one point in space and another. Time would exist, but there would be no events to make it relevant. Matter is a feature of space differentiation making over here different from over there.[12] Whether taken at face value or as will be described here, without differential of space I would not be typing this article, however fanciful.[13] The existence of particles in the form of spherical oscillations is the result, whether by accident or design, of a defect in space or a defect in the expression of the impulse.

I'd like to get even more fanciful regarding the Celestial Impulse. Some choices of origin include an intentional explosion on an interstellar scale; a doomsday device; another non-null experiment or any of many fanciful concepts. The two points are that 1) there is potential for creation of eddies due to the Celestial Impulse and 2) the original source doesn't really matter but there are a number of potential causative situations. I contend that what we have taken for atomic particles at all scales are spherical oscillations in the Celestial Domain.

Characterization of Celestial Eddies

Question: **What is the nature of these Celestial Eddies?** I am working on the hypothesis that they closely resemble the original response to the impulse that initiated the Celestial System. The previous paragraphs are to emphasize that I realize that this is quite unlikely and why. However, when modeling, one has to present, examine, correct and repeat until the model is perfect.[14]

[12] This is not a metaphysical observation. I am over here so I exist over here and you are over there so you don't exist over here, but without your observation would I exist over here? See, I can do metaphysical - I just think it's silly.

[13] Ego cogito ergo sum - I am therefore I am. Nihil aliud.

[14] Repeat until perfection implies that science itself is the proverbial perpetual motion machine. Only the human part wears out allowing the machine to coast to a stop. In other words, until the model is 'good enough.'

Transverse Waves vs. Longitudinal Waves

An alternative visual analogy of the original impulse would be an explosion in a medium such as air or water. This is not the common visualization of water waves such as waves lapping onto shore or on the hulls of boats or docks. These are transverse waves. I'm thinking more of the impulse created by an explosion that simultaneously radiates in three dimensions. These are longitudinal waves. Transverse waves are at right angles to longitudinal waves.

Assuming an infinite room for expansion the amplitude (transition) of any wave diminishes with the cube root of distance if propagating in three dimensions. There are losses in addition to the cube root distribution of energy reducing the total energy distributed from the impulse to the medium. If propagation of a wave is limited to two dimensions, such as in a shallow tank the amplitude diminishes with the square root of distance.

Comparison with familiar waves

In the case of perceived matter, characteristics such as temperature, pressure, foreign matter and such limit uniform distribution. I am assuming no similar defects in the Celestial Domain that we perceive for the purpose of this article.

Consider the possibility of an interstellar medium facilitating stellar information propagation.[15] The proposed Celestial Impulse is not a form of matter so we are not talking about water or air type propagation. This concept is quite a bit easier to allow than some quantum physics theories![16] The interstellar medium to which I refer is not a relationship of particles within a substance, as we know it, but an omnipresent system of interaction.[17] The original concept of the ether was a universe filled with particles. I'm referring to a universe filled with an ever-expanding field. I can, and will characterize the field, later in this paper, but further speculation is beyond my perception.

The advantage and necessity of an interstellar medium is to provide a means for propagation of the Celestial Impulse. I can think of no physical manifestation of the hether other than its

[15] This has nothing to do with information theory. It's just that different things are happening in different places and they are affecting each other in an orderly fashion. In other words, it is space and time as we perceive them.

[16] As a footnote, I discovered the Higgs field after I wrote this section ruining my rediscovery of the ether. I can accept the Higgs field but not the Boson, though I don't reject the latter either.

[17] I learned about the Higgs Field after writing this. It seems that I'm closer to the mainstream than I thought.

ability to support spherical oscillation. The differentiation[18] provided by the hether assumed here is roughly analogous question regarding the tree falling in the woods. In our case, the question morphs into "If there were no air, would anybody hear it?" In this form, the answer is much clearer. Of course, it makes a sound on this planet with its atmosphere, what a stupid question.

Despite the way it reads, the following paragraph is in no way a statement of metaphysical manifestation. I believe it is the basic construction of the universe, as we perceive it.

I am making the case that all that we perceive are the disturbances in the Celestial Medium that I refer to as the Celestial Domain. You might even consider the Celestial Domain as the universal collection of three-dimensional eddies.

Eddies come
and never go,
always swirling,
as they flow,
never stopping,
for all we know
while we delight
in the show.

Hether Characteristics

A discussion of the hether (Celestial Medium) needs some starting points. In English I'm saying, "Let's create our assumptions regarding characteristics of the hether."

The hether is homogenous.[19]

Perturbations propagate freely and equally in all directions unless affected by external influences. Corollary: There is little (immeasurable) diminution of amplitude regarding effects experienced at a distance. This is consistent with the **conservation of energy** concept with which we are so familiar. I say at a distance because when looking at these we have no intimate contact

[18] In this case, differentiation refers to the ability to distinguish 'this from that' or 'here from there' and 'now from then.'

[19] Like Chickenman, "It's everywhere it's everywhere." Chickenman was a new two or three minute skit presented throughout the day on Armed Forces Radio in Vietnam during the 1960s. The author recommends the series. https://www.youtube.com/watch?v=bDDoSb73rA8

with the individual spherical oscillations. Note: We want conservation of energy so that we don't have to deal with entropy - yet.

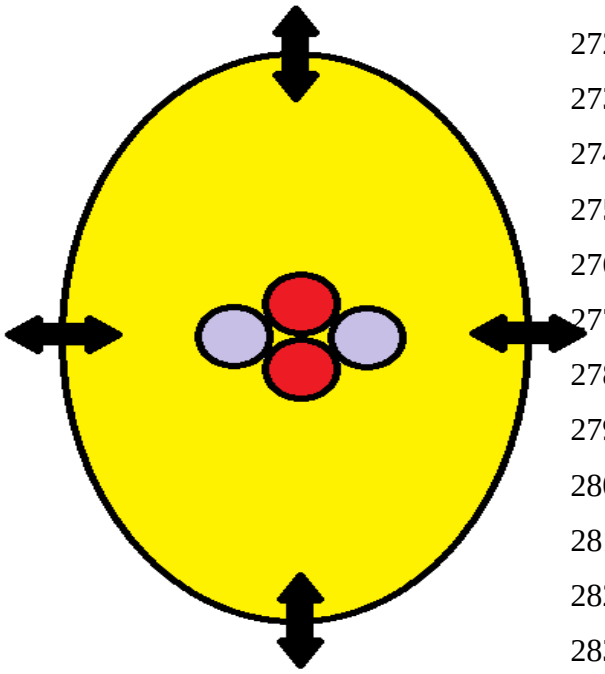
The hether is uniformly elastic.

Ok, this is not exactly accurate but a good approximation. Just as water *seems* to be elastic[20] to a depth charge because the restorative force of air and water depth[21] makes it tend to restore equal pressure in that vicinity. The ever-expanding nature of the universe we perceive provides a restorative force universally exerted in all directions - seemingly equally.

My qualifications here will make sense after the discussion of gravity.

The hether transmits force without loss.

I don't know if I really believe this myself, but I strongly suspect it to be true. I definitely feel that the hether transmits force with immeasurable loss.



Single electron spherical wave around nucleus

Spherical Wave Properties

The properties of homogeneity, elasticity and lossless transmission allow us to assume natural harmonic motion to the spherical waves or harticles. Fortunately, we have well developed tools for analysis of natural harmonic motion. A single simple note is that I do not claim truly spherical motion![22]

We now have a system of an unknown but characterized medium disturbed by an impulse event that created what we can visualize as three-dimensional eddies in the hether. For the

[20] Tends to restore itself to its original shape.
[21] The restorative force is 14.7 psi plus approximately 0.5 psi per foot of depth from the surface of the water.
[22] Surely, you have guessed by now that I bestow some eccentricities on these spherical oscillations not the least of which not being concentric while full enclosing. Think of an ovoid egg and its yolk.

sake of immediate discussion, we will consider these eddies as being roughly spherical in shape and consisting of lossless, spherical, ovoid and elastic oscillations that may be characterized as oscillating in a manner consistent with natural harmonic motion.[23]

Let's categorize the spherical eddies by size. Eddies of larger displacement (lower energy) would be at the outer perimeter of the spheroid with eddies of increasing energy toward the center of the object. This is similar to the Bohr Atom, except that the particles are missing the essential component of mutual repulsion through charge interaction. Bohr's atom gained that property by edict. In the Bohr atom, we assume that the electrons repulse each other, as do the protons. Wasn't that a convenient assumption!

Properties of Spherical Waves

For a harticle to function as matter it must have properties of attraction and repulsion. To understand how that might occur let's look at some specific characteristics. For whatever reason, a spherical oscillation exists because something causes the medium to expand and contract in a perpetual cycle.[24]

Please note that the term spherical does not mean that the outer periphery of said wave is equidistance from a particular point in space. It does mean that the wave fully contains (encompasses) a point(s) in space, which may or may not contain other spherical waves. Later on, this theory depends on the shape of a spherical wave conforming to factors such as other proximal spherical waves.

Collections of spherical waves

Consider the case of a single spherical wave surrounding a hucleus[25]. The only assumption regarding shape in the above drawing is that the hucleus may be asymmetrical and the arrangement of the nucleus *may* affect the shape of the spherical oscillation. The above drawing shows that the shell (shell: the maximum expansion of the external field) could effectively substitute as an electron for the purposes of this paper.

[23] You are right natural harmonic gives an advantage to existing mathematical tools. Besides, it is probably the case implying a relatively linear ether.

[24] Conversion of energy is not discarded at this point.

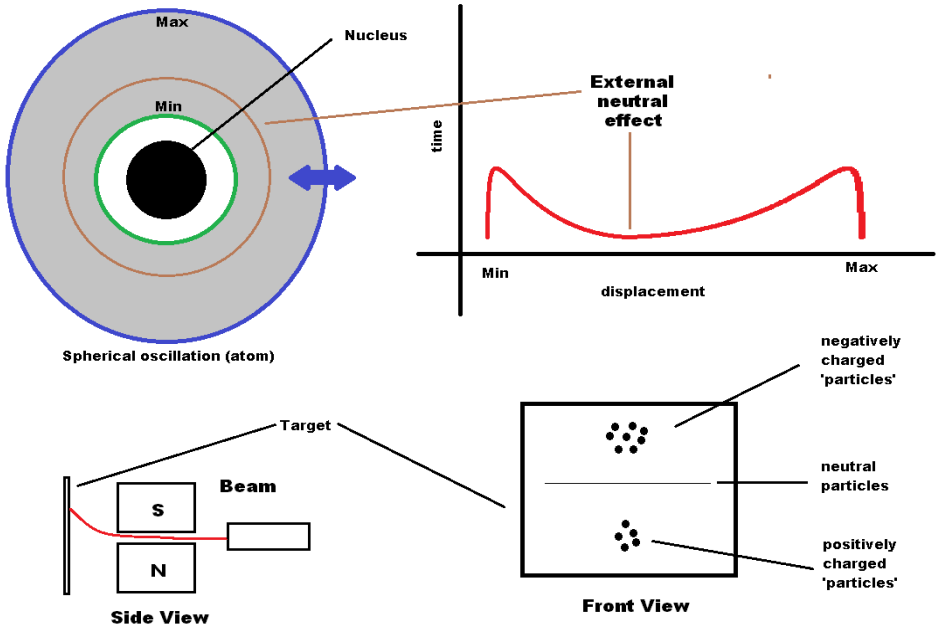
[25] Here a nucleus is a collection of spherical waves.

The shell oscillates between maximally and minimally expanded extremes for the purposes of this article. Consider that the influence of the nucleus is not uniform with displacement, therefore the point of maximum dd/dt (derivative of displacement change over time) is probably not equidistant between maximal and minimal displacement.[26]

Since the force of the restorative force is assumed to be linear,[27] [28] the magnitude of total travel is proportional to the cube root of shell energy.

A bit of proof

Don't give on me up yet, even if you are already shaking your head. Trust me[29] that you will have some food for original thought before this article is finished. My proof is the results of the Stern-Gerlach experiment. This article will make the case that some the basic assumptions regarding this phenomenon were wrong.



Stern Gerlach Experiment

Referring back to the Stern-Gerlach Experiment drawing, let's say we send a spherical oscillation (upper left corner) through the magnetic field (lower left corner) instead of a particle

[26] The implications of this non-linearity are very important.
[27] The restorative force is the omnipotent force of expansion of the universe.
[28] Since the ether is expanding from a point the linear assumption isn't accurate, but that discussion needs to be handled later. The calculations to compensate for that non-linearity exist now.
[29] I am neither a lawyer nor a politician so trust me is not accompanied with a wink or nod.

with orbital electrons. The outer most spherical oscillation fully surrounds other components similar to itself with which it interacts. We can call this inner construct a hucleus. Externally, this spherical oscillation exhibits an alternating negative charge such that the net charge of the particle is varying between a positive charge and a negative charge. Let's further assume that the lowest energy or longest wavelength component is closest to external influence (marked as max on the spherical oscillation and the time/displacement graph). Let's assume that the nucleus is contained within the outer surface of the spherical oscillation, but not necessarily centered. Instead of electrons spinning around a nucleus (the Bohr model), there is a harticle that is alternately becoming more and less charged relative to the external world. Except for the nature of the particles observed, the original assumptions are the same.

Spherical Oscillation Details

We begin with the harticle field at minimal expansion. As the harticle expands, its interior field reduces and exterior field increases. That expansion results in an exterior hether increasing and interior field decreasing. At some point, the field achieves maximum expansion with the exterior field maximized, while the interior field minimized. The exterior field then begins to minimize and the interior field increases until the field returns to minimal expansion at which time the cycle begins again.

When expanded the effect of the interior field gradient is minimal.[30] When contracted the interior field is maximal. We can assume natural harmonic motion because the restorative force is continuous and nearly linear. The result is that the charge oscillates in a nearly sinusoidal wave fashion.[31]

Field strength within the spherical oscillation is a gradient proportional to distance between the 'nucleus' and external oscillation. Displacement of the exterior field over time is continuous but not linear because of increased field density near the hucleus. The dwell time when the shell is expanded is greater than contracted shell time because of the change in gradient. The greater external restorative field is therefore of a longer duration.

The point where the external effects of interaction between the nucleus and shell during a full cycle of expansion and contraction of the shell is canceled (effectively 0) is the neutral point

[30] This diminution of charge is solely through distance for now.

[31] It is the lack of mass that makes this difficult to conceive as natural harmonic motion, but consider radio waves.

of shell movement. As you can see from the upper right hand drawing Stern Gerlach Experiment graphic, max displacement is greater. The net effect is that the charge of the shell (as opposed to the nucleus) dominates the external charge. The silver atoms will therefore naturally either be attracted to or repelled by a magnetic pole.

Shell motion is natural harmonic motion therefore the shell's time is primarily at the extremes of travel giving the most external shell either a positive or a negative charge. The sine function of natural harmonic motion increases dwell time at the extremes of travel.

Detection methods of the period were rarely linear with a log or log of log response making the sin distribution seem to be binary responses, when in fact, the responses are a sin response.

It is no wonder the experiment seemed to be two distinct high-resolution packets instead of a line of evenly distributed deflections. The target medium probably also had (has) a logarithmic response enhancing the peaks of response (sine response).

Also, the noise level of the system was probably rather large masking the minimal response between the peaks indicating a binary response instead of a sine response.[32]

Gravity

Once one begins to accept the concepts of spherical oscillation, the concept of gravity becomes more clear - and simple. Consider the rock at the end of a string. It is resisting the change of motion. Consider the rotation of a spacecraft about an axis to create 'artificial' gravity at a distance from that axis. Consider the Big Bang accelerating everything from a point in space.

The Big Bang is not necessary for this discussion. I only wish to take notice of universal expansion. For all we know the acceleration of expansion is consistent, continuous and probably constant, but we can never know.

For all practical purposes, expansion of the universe equal in all directions because of our distance from the center of expansion.

If you imagine holding a ball in your hand the ball is expanding in all directions. If, in fact, the universe is expanding from a central point (I believe it is) then the gradient of expansion will be ever so slightly greater on the side of the ball toward the center of the universe. Your homework assignment is measuring the difference in rate of expansion across the hand held ball.

[32] It is a |sin| response actually.

The glue that holds Spherical Oscillations is the constant acceleration of the universe. The close exterior expansion field increase as the oscillation expands. The close exterior expansion field decreases as the oscillation contracts. The expanded field has a longer dwell time and excursion resulting in a net average field increase close to its periphery. The expanded field gradient is smaller because of its larger volume.

Gravity is the algebraic interaction of multiple spherical oscillations (Celestial Eddies) creating local apparent increases in the expansion of the universe. The increases are apparent because the total effect of an eddy is a zero sum gain.

Tortuous

I realize that this paper is a tortuous expedition for the reader. My skill as a writer and experience with technical papers is lacking. This paper is one of the things I've been putting off for decades so I decided that now is the time. I will present more papers but every avalanche begins with a single snowflake, unless it melts too soon.

Decades ago, I worked with a physicist that stated that every time there was a computational flaw a new particle was born. I did not understand at the time but I do now.

Einstein always said that the problem with Quantum Mechanics was that there was no physical theory on which to base the mathematics. I believe this may provide a physical basis for existing mathematics.

I can't explain it now but I also believe that my concept of gravity as the resistance to expansion of the universe (or you could even say resistance to entropy!) gives the basis for a single unifying theory. Videbimus, or better yet, simul discimus or my my personal motto - Non est magicae. [33]

Just for Darryl

To summarize my thoughts: Gravity is resistance to expansion of the universe. Fields are disturbances in the gravitational field. A spherical oscillation is a specialized disturbance in the universal gravity field (ether). Atoms are collections of spherical oscillations with the most energetic oscillations contained within the less energetic oscillations. Not all nucleus spherical oscillations are necessarily contained within each other. The nucleus distorts the gravity field by

[33] We'll see - There is no magic

changing either velocity or shape. These distortions are the source of electric and magnetic fields.

I believe that the three degrees of freedom of a spherical wave correspond to gravity, electric and magnetic fields. I also believe that a stand-alone spherical oscillation(without a 'neutron') would have mass due to alteration of the gravity field and no electric or magnetic fields because there would be no distortion of the spherical oscillation. That is where I'm heading in this section but I can't seem to get there.