

# Get 'Real' About Gravity

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There are concerns about the progress of Physics in the last 100 years and the chaos of competing ideas and concepts. What is really relevant to understanding the universe? An alternative scientific perspective can be useful and revealing. An example was the change from the geocentric to the heliocentric view of the universe. The complexity of needing so many epicycles to determine celestial motions allowed Copernicus's simpler perspective to take hold in the face of a seeming impossible challenge since our senses deny the new-found motion of earth. Understanding of spatial motions today must focus on gravity and related concepts. Theories today tend to piecemeal, not addressing basic facets of human knowledge. That is the role left to cosmologists. A perspective of the universe presented here is all encompassing and yet quite simple.

## 1. Introduction

The structure of the universe is a simple concept though mankind continually complicates it. The universe is essentially isotropic within a 3 dimensional framework, allows for motion and structure, and contains a force that holds macro bodies together. That force is of course gravity. In the hierarchy of theories, the following alternative view of the universe is the most basic. It is simpler in its concepts and terminology than is current theory.

Since gravity dominates action in the universe, a proper focus on gravity as the prime mover should provide our perspective of the universe. We really haven't logically defined gravity. Most concepts and definitions lead to misrepresenting gravity as a metaphysical force. Scientists begin their theorizing with mass and define motions using concepts of fields, forces, charge, and energy rather than begin by relating to gravity.

New theories result from scientific investigation, specifically within physics and astrophysics. A complete overall perspective starts via a rationalist view before succumbing to the experimentation - proof requirements of empiricists. Experimentation results can lead to new concepts, ad infinitum, that don't improve our understanding. Most theories are designed to oppose or support existing theories such as relativity. We have reached a point where there are advantages to considering a perspective that reduces the number of relevant concepts. What follows uses re-defined gravity to restore perspective to our universe. Some building blocks are:

1. Gravity is an external event.
2. Gravity is a 'net' effect resulting from interacting beams of radiation particles
3. Gravity is multidirectional, not simply a downward force.
4. Gravity particle beams penetrate and exit from masses. The beams are bent by rotation as they depart the rotating body.
5. The sun causes Kepler's formula to work, so the center must somehow provide the impetus for orbitals.

## 2. New Perspective

The concept of attraction is not a physical event. It is a perception resulting from the 'net' effect of beams arriving at masses. Physics should have dealt with this issue eons ago.

Physical events demand interaction such as a gravity push upon things. We perceive the pressure as gravitational 'attraction' and a side result is gravity keeping masses together. I suggest relating actions to linear beams which are easier to understand and work with than are fields.

Defining gravity as an external event is key point 1. Consider gravity pushing rather than attracting. Doing so addresses a logical requirement for physical action, that of contact. Contact occurs between two or more particles. Gravitational force is continuous suggesting gravity travels as a beam. The part of the beam causing contact with mass is the wave. The varying altitude within a wave gives it impact potential. I have named the wave as a particle called a Paep, a particle applying external pressure, for ease of discussion. Gravity (however defined) must move in order to create pressure, and must do so in all directions. In the void of space, all gravitational push is in balance. Intersection beams arriving from all directions yields balance. To get 'gravitation pressure' there must be an imbalance. One way that occurs is by more gravity moving in one direction and overwhelming the offsetting gravity from the opposite direction.

Gravity acts as a result of a 'net' force is point two. Gravitation at a point can be unbalanced depending on the force contained within opposing beams. The common circular curvature of spheres such as earth hid the variability of gravity throughout the ages. Gravity varies due to modification by masses or by radiation.

One example of unbalanced opposing forces netting out is attraction by spatial bodies. Attraction at the surface gives the maximum net imbalance. It there causes the maximum downward force and also from the interaction we get the maximum heat. As with the attraction force, at higher altitudes the heat diminishes by  $R^2$ . Contrary to current ideas, both push and heat should diminish toward zero approaching the center.

Treating gravity as a pressure alters a myriad of concepts. Start with a physical gravity which pushes upon things. A simple corollary defines its opposite, what we call anti-gravity. If gravity is a push, then anti-gravity must be a push in the opposite direction. It is not some mystic situation in which everything disintegrates, born of those who thought of gravity as an attraction and can't reconcile an anti attraction which lacks physical attributes. Anti gravity causes the repelling of 2 bodies from each

other, in opposition to attraction, the normal condition. A goal using anti-gravity might be levitating a mass on earth. In fact we may be able to cause such anti-gravity by interfering with gravity from one direction. We will see this as magnetism, the other "attraction force".

### 3. Combining Forces

Key point 3 is that gravity is not simply a downward force. Earth is like an enormous atomic nucleus. At any one time it is affected by gravity pushing down throughout its surface and therefore pushing the 'point' called earth from every direction. Wouldn't determining the sum of all pushing be interesting? A calculation that sums the gravitational force around a sphere summing  $g \cdot 4\pi R^2$  correlates somewhat with the nuclear force. Strange that people chose to compare the 'weak' (linear) gravity force with the 'strong' (spherical) nuclear force. The nuclear force would be gravity from all directions focused at the same time on a single spherical particle. But we shall learn there is no atomic repulsion for the nuclear force to overcome anyway.

The sum of net gravity throughout the surface remains constant when extended into space at any altitude. Circumscribe a sphere around earth at twice earth's radius and the total net gravity will be the same. Since the circumscribed sphere has four times the earth's surface, a specific attraction force is  $\frac{1}{4}$  as much diminished by  $R^2$  as expected. Atmosphere affects all such theory.

We don't really know the power of one sided gravitational pressure. The net effect of gravity is quantized by  $G$ . Net variances can disturb the balance suggesting other terminology. For one example on earth, if incoming beams are interfered with, local interactions become variable and significant disruption may occur. Lightning is a sample. Electricity is a term. This suggests pushing gravity doesn't always net out normally.

### 4. Magnetism

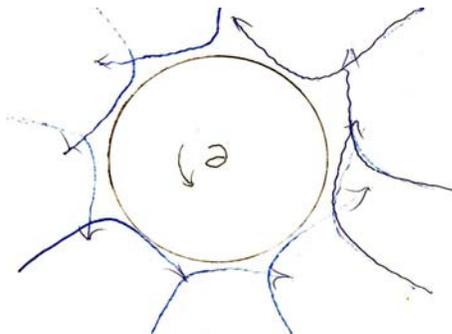


Fig. 1. The redirection of gravity beams shown for a single electron.

Gravity's structure gains focus as we consider its 'attraction partner' magnetism. Gravity is a long distance 'attraction' and magnetism is a local 'attraction'. Magnetism is directional, both attracting and repelling. Magnetism functions for limited situations and materials while gravity is omnipotent. Magnetism can be merged here with gravity as a subset. Magnetism is - pushing gravity beams deflected perpendicularly by a redirecting source, usually a series of common spinning electrons. The result is increased gravity push in one direction (repulsion) and decreased push in another direction (attraction). Naturally beams are more

redirected near the redirecting source than at greater distance. Thus it's a field.

Next assume the electron instead to be a charged wire extending out from this paper. We have the 3 elements of Gauss's law of magnetism. The wire carries electric current escaping the page, the displacement is the approaching gravity beams and the magnetic field is the region of push by the redirected beams. All 3 coordinate axes relate to one gravity beam. The range of displacement distances in the incoming gravity axis determines vector measures of the created magnetism. When viewing the entire circle of events, the coil direction of the magnetism follows the right hand rule.

A series of spinning electrons create a magnetic field. Electrons in an electrically charged wire act as helical coils and spin to redirect gravity beams. The longer the wire the stronger is the magnetic effect. A series of charged wires wrapped around a tube to enclose a region redirects beams in one direction externally via the right hand rule. This is a solenoid. On the inner side of the coil system, electrons on opposite sides are spinning oppositely so their output is directionally the same. The beam pressure peaks at center, and produces a focused beam since the area is enclosed.

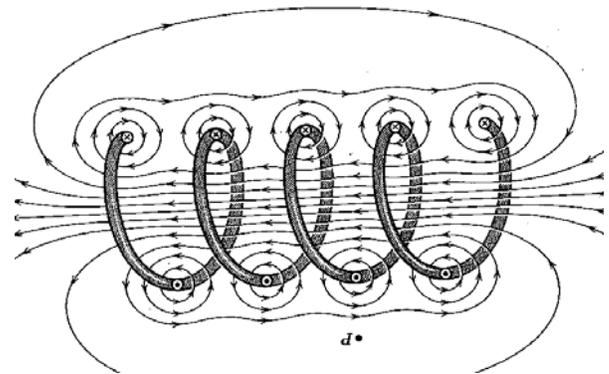


Fig. 2. Solenoid

Here we have explained the parent of magnetic forces, repulsion as a lesser gravitational push and attraction as a stronger push. Both are magnetic and are thus redirected pushing gravity. Electrons are the remaining component and serve as helical beams that provide the push. An end result is that electric interaction, such as charge and repulsion in nuclei by protons is not a concept separate from gravity. Theories built around the secondary concept of EM radiation ultimately correlate with my theory, but lose many revelations and the simplification of gravity.

### 5. Pushing and Bending

External gravitation theory key point 4 explains that external gravity particle beams penetrate and exit masses. In the process gravity beams are slightly bent as they depart the rotating body. They absorb the rotational motion. Do recognize there never can be a concept of straight up in our universe due to revolving or rotating observers. Absolutely all radiating beams in the universe must curve and the universe itself is curved throughout for all relationships. Straight line astrophysics bogs down.

Upon arriving at orbital distances, bent gravity beams essentially push orbitals in their orbits. Gravity thus provides both the

centripetal force and the perpendicular motion offset called centrifugal force. The common source of the two forces provides unprecedented stability and deflates any doomsday collision concerns.

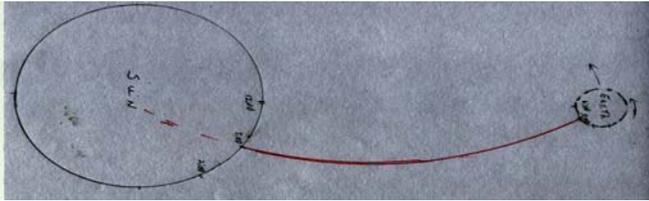


Fig. 3. Exaggerated gravity stream - sun to earth

Kepler found a relationship between orbits in the solar system. That comes from a formula which shows that the periods of the orbitals is commonly proportional to the 3/2 power of the radius of their orbit from center. You'll want to contemplate this because it is misleading in its current form as  $T^2 = KR^3$  for hundreds of years.

Key point 5 recognizes that if the common center causes Kepler's formula to work, the center must somehow provide the impetus for orbits. In Kepler's, and in Newton's, time there was little knowledge about the structure and motions of the central sun. They could not begin to explain a source of external impetus within orbits. Even for LeSage and others who believed in pushing particles, the impetus was unavailable and the bending of beams unimaginable. Now we know that our central sun rotates.

Admittedly its rotation rate doesn't seem to correlate in Kepler's equation for orbital velocities. We would think the central sun's rotation would assist and cause a swirling of the solar system diminishing into distant space. But Kepler's formula can't accommodate the 24 days of solar rotation. The factor R represents distance from the sun. The sun's surface has a radius distance from the sun of zero. But I find that central rotation does contribute via Kepler's formula if looking past the local rotation that is opposite within the atmosphere. The central body spin direction doesn't dominate until some point well beyond the surface, potentially somewhat beyond the synchronous orbital distance.

All local rotation within that altitude exceeds the body's spin direction because atmospheres are pushed by external gravity sources and exceed equatorial rotation. A further observation about orbital rotation rates is that the sun's equatorial plane contributes directly relative to R to the diminishing rotation velocity of orbitals while the greater latitudes of the sun contribute relative to the 1/2 power of R. We focus on highlights here. But by using Kepler's formula you might estimate the size of the extension of the sun's or of Jupiter's synchronous orbits.

Newer concepts within astrophysics include dark matter, dark energy, and modified Newtonian dynamics -MOND. Where do these come from? The source is perceived flaws in Kepler's formula. As we address invented concepts that need eliminating, an important cosmological issue is that the Kepler formula, which works for the solar system doesn't seem to work for galaxies. So solutions were invented without real thought. The 3 concepts noted above were invented to redo gravity. Instead a simple application of gravity solves the mystery. Kep-

ler's solar system formula describes orbits when a dominant central body controls a system. Control means causing the orbitals to revolve. That is a pushing gravity function. Planets are too small to provide significant motion impetus to the sun. So the position of the dominant sun fixes 3 dimensional solar system space.

The combination of effects from pushing gravity helps explain why orbitals never get pushed into their central body. If you place 2 similar sized similarly rotating suns near each other, they will orbit each other, each being driven by the other. Common rotations tend to be viewed as counterclockwise. All orbitals rotate counterclockwise relative to the prime source providing their gravitational push. Cases where rotation is not counterclockwise relative to the secondary center provide 3 body gravitation studies. Also the rotations cannot be in directly opposite directions or they will annihilate each other; a future predicted for Triton with Neptune. If there are 3 bodies equally spaced linearly, the central body will serve as the orbit center for the other 2. As you add bodies, the series of pushes gets complex, but nobody crashes into another. Thus a galaxy consists of numerous similarly rotating bodies driving and pushing each other. Pushing and attracting from a common source balance each other out. Respective impetuses can be analyzed by applying diminishing circular plates of impetus around each body. Obviously this is nothing like a solar system, but it uses the same force. There is no place for those proposed modifications of gravity.

Besides pushing orbitals in their orbits, solar originated bent gravity beams cause the counterclockwise rotation of the orbital by penetrating, in average, to the right of center as they approach from the right. For Venus's clockwise rotation, the majority of bent streams pass just left of center.

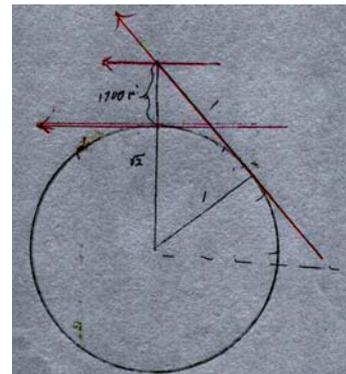


Fig. 4. Gravity pushing the atmosphere

The effect pictured above shows solar beams that pass through earth's atmosphere. This is the source of winds. The beams don't penetrate, but do cause atmospheric rotation. These upper beams surround the earth and push the atmosphere from West to East, causing our flow of jet streams and clouds. The top of the picture shows the westerly pressure at the equator at midnight directly opposite the sun. The bent gravity beams here pictured in exaggeration to arrive bent 45 degrees thus tangent to the surface at 1:30 per clock diagram. The atmosphere - 1300 miles up is pushed by solar bent gravity and earth's bent gravity and travels faster than earth does.

Note also that external gravity beams together come as a blanket of beams approaching all latitudes of earth. Toward the

poles the flowing velocity will be greater as the bent beams have less distance to travel around while still providing the same worldly velocity of push as at the equator.

Drawing pictures of the upward exiting gravity beams helps relate to the overall concept of external gravity. A picture below shows beams exiting earth and those exiting the sun interacting near earth. The magnetosphere consists of solar and earthly bent beams. Beams exit the sun and bend left due to solar rotation. Some of those beams bending across the face of the earth rather than striking earth are seen from the back by earthlings and are labeled as solar wind. That term apparently came from the observation of variable and directional pushing by solar gravity beams. The earth also bends exiting paep beams to its left. Picture a region between the sun and earth where the beams from the sun and earth interact, each bent counterclockwise relative to their origin body. There will be turbulence surrounding a small region of equilibrium which is the focus of the magnetosphere. Such an effect has I believe been detected for Jupiter. The solar wind concept somewhat misrepresents the motion. Diagrams showing the disturbed atmosphere occurring near earth such as the one below miss much of the bending activity.

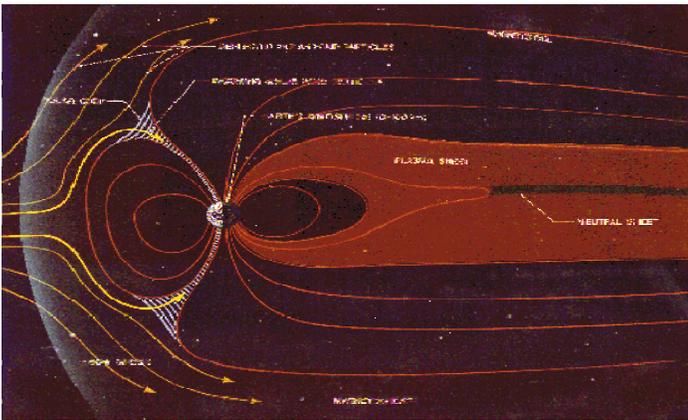


Fig. 5. Magnetosphere

## 6. Mass and Radiation

There is a family connection between gravity radiation and mass that I call the spectrum of existence. Everything is waves from very long to so dense they become mass. Gravity consists of beams, and being long waves, it penetrates mass significantly. Gravity beams otherwise mimic light beams and other EM radiation. The wave length variation across the whole spectrum dictates the penetration ability. The shorter the wave, the less it penetrates and the more it mimics mass. Short wave radiation such as gamma or X rays usually perform mass creation adjustments upon approaching the unbalanced gravitation of spatial masses.

Short wave coils are most prone to intersecting with adjacent waves in their beams when the beam is bent. The bending and wave nature cause beam line intersects or crossings. The interactions become electrons. The interior of the coils becomes protons and/or neutrons similarly as magnetic beams are created within electrified coiled wires. While motion continues within the beam lines, the overlap location remains in place as unmoving mass. Matter occurs when beams bend sufficiently to create a loop within itself or when intersecting other beams.

So, a mass constantly repeats and remains in place. But what is it? Mass is composed of intersecting and looping beams. The amount of mass within a volume of space is the density of the beam crossings which are also spins in physics terms. Mass is the existence of spin relative to a local equilibrium of space. The spin of internal components of a body and of the body as a whole, taken together, defines the density of mass and ultimately the existence of mass.

Mass is created by unbalanced intersections of Paep gravity beams at points in space and creation continues very gradually in accord with the equation  $m = E/c^2$ . This inverts Einstein's energy release equation.

## 7. The Universe

External gravity must be the structure of the universe. There is no aether that carries it or provides structure. Since gravity is only variable upon interaction with mass it must be infinite in range and thus space is infinite. The gravity beams define all infinite space. Gravity does diminish within masses, so gravity beams must be recreated. In fact, being long waves of radiation they result from stretching of light waves as the light travels from distant stars. The system as a whole is static while constantly regenerating gravity. Also, the universe is space fully defined as beams like radiation and can exist without mass. It is the actions of radiation beams that build matter over time creating hydrogen on up to the largest suns.

Interacting bent radiation beams or ones that bend enough to loop back such as gravity or EM radiation are what creates mass and matter. We can discard the silly concept that planets were created and set into orbit by condensing of gasses, which gas could never mimic all the various orbital revolutions.

Mass as a build up over time can occur in space where we identify the simplest build up - hydrogen everywhere. Repetitious intersecting of waves in space occurs primarily when beams bent by different sources interact. An optimum location is where streams from the sun and from Jupiter interact and build masses called Trojan asteroids in the Lagrangian L4 and L5 points of Jupiter's orbit. Mass buildup also occurs within masses where gravity beams bend and interact with existing mass particles. The output of such interactions in the sun provides light and heat. These are radiation because the source - gravity is essentially radiation.

The same events occur within earth where minor heat and light originates. Likewise earth's mass gradually grows. Do you like continental drift with shifting tectonic plates as a current scientific theory? I prefer a slow expansion of earth. The plates, separations, earthquakes and volcanism are products of interior expansion pressuring the surface. Analysis should extend back to the planetary beginning. Early features of the surface are replaced by newer ones as the earth grows. As gravity beams penetrate, such things as water and oil are continually recreated below the surface. Unbalanced gravitation forces pushing down vs up collide and form matter. The penetration is what leads to earthquakes, volcanism and rifts separating sections of land. All the elements and types of mass that we identify are created and constantly rebuilt over long time periods.

## 8. Charge

There is a concept called charge, a defining concept of electricity and current. Charge is labeled positive or negative and assigned to nuclear particles. But to me, charge is simply a magnetic effect that emphasizes the 'direction' of gravitational push. Charge has one constant value, and the amount of charge depends on the number of gravity beams that aren't offset by opposites. Science however classifies charge as attraction and repulsion of oppositely charged particles. Simplicity suggests dropping the charge concept, replacing it with a sum of effects of interacting push motions arriving from various directions.

## 9. Curvature

This all fits together and is based on the curvature of a single force rather than on dozens of manufactured concepts. To restate this in some detail - the ongoing pursuit of knowledge centers on correcting failures of any and all current ideas which, given sufficient time, lose their validity. The problem is underscored by curvature. We get our factual ideas from applications of mathematics. Even with vector analysis, extra dimensions, or calculus as tools we can't numerically outline curvature within the universe. Curvature varies with place distance and time. As we learn more, sometimes we extend velocity formulas. The factors ultimately get out of whack. The NPA helps expose that by its examination of relativity theory. Many people have shown errors with various claims and extended concepts promoted by relativity. These objections tend to be valid and basically prove that any theory is invalid when expanded. I previously addressed this concept for both redshift and a constant speed of light.

## 10. Conclusion

The structure of the universe has been theorized against numerous backgrounds. These include fixed space, universal time,

fixed speed of light, the aether, the big bang beginning, infinity, mass, expansion, EM radiation, the electric universe, plasma, etc. It was viewed against an undefined gravity by Isaac Newton. Finally here is real gravity for the background.

The simplicity of this model provides an optimum opening to mainstream physics. Since the general public can understand it they may question the need for such complexity as physics expounds today. I suggest you take projects or theory of interest to you and try considering them against pushing/curving external gravity. The challenge is interesting. You can refresh your understanding by referencing the definitions on my NPA page.

## References

- [ 1 ] Paul Schroeder, **The Universe is Otherwise** (Booksurge/Createa-space, 2006).
- [ 2 ] Paul Schroeder, "Paeps: External Gravity Particles (The Universe is Otherwise: Part 1)", (2008), <http://www.worldsci.org/php/index.php?tab0=Abstracts&tab1=Display&id=3224&tab=2>.
- [ 3 ] Paul Schroeder, "The Spectrum of Existence (The Universe is Otherwise: Part 2)", (2008), <http://www.worldsci.org/php/index.php?tab0=Abstracts&tab1=Display&id=4152&tab=2>.
- [ 4 ] Paul Schroeder, "Motions, Rotations and Revolutions (The Universe is Otherwise: Part 3)", (2008), <http://www.worldsci.org/php/index.php?tab0=Abstracts&tab1=Display&id=3229&tab=2>.
- [ 5 ] Paul Schroeder, "Gravity from the Ground Up", *Proceedings of the NPA* 7: 498-503 (2010).
- [ 6 ] D. Halliday, R. Resnick, **Physics**, Part 2, 3rd Ed., p. 756 (Wiley, 1978).
- [ 7 ] Greg Volk, "A Matter of Definition", *Proceedings of the Space, Propulsion & Energy Sciences International Forum* (College Park, 2011); "The Meaning of Maxwell's Equations", unpublished.