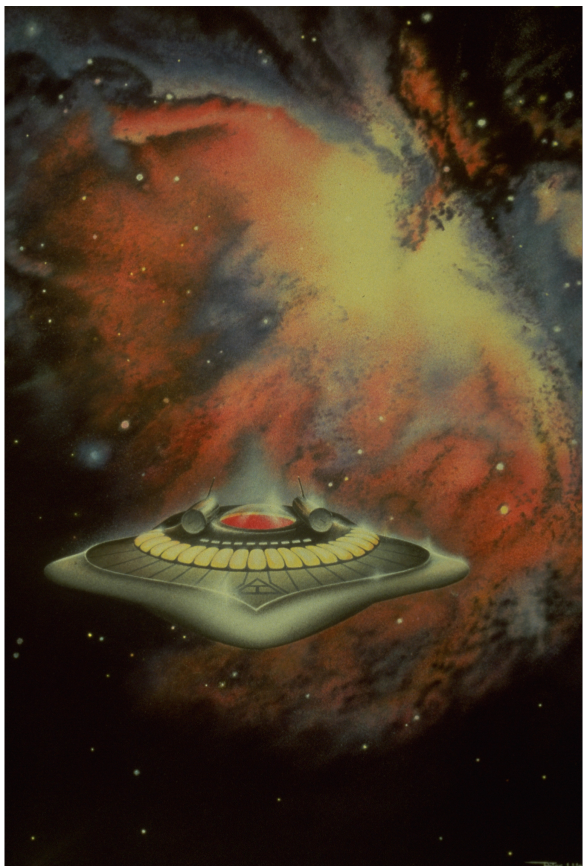
The Capacitance Theory of Gravity

A Simplified Account of Professor Morton Spears' Alternative Theory of Gravity



By James Heer

2011

Introduction

This theory is awesome! I've been searching for a plausible theory of gravity for decades. A random internet search discovered, for me, Professor Morton F. Spears from the Iowa State University. Unfortunately Professor Spears died in 2006. However, he left us with a couple of books on the subject of his Capacitance Theory of Gravity. These books can be downloaded, for free, from

http://www2.econ.iastate.edu/tesfatsi/mfspears/

They are entitled CTG Book I and CTG Book II.

I spent weeks combing through them and working out his mathematical formulas for myself. Fortunately he does not use calculus, just algebra, and I was able to get a very thorough understanding of what he was talking about.

It's my goal in this paper to pass on what I've learned in a way that nearly everyone can understand. I've left out nearly all the mathematics and electric circuitry involved. It was hard to do. Professor Spears math is quite elegant and to the point. Of all the physics concepts I've studied involving gravity and electronics, this has been the easiest to duplicate. But it was written in the language of a physicist. My goal is to write it in the language of everybody.

I've added very little of my own to this theory. However, the material I studdied was very direct and to the point. I fervently wish I had more of Spears' material to study so that I can duplicate it better. So, foregive me, reader, if I messed up anything. You can always refer back to CTG I & II for the source of this paper. I use no other references.

Magnetism, Electrostatics and Gravity

Three Types of Fields in Space

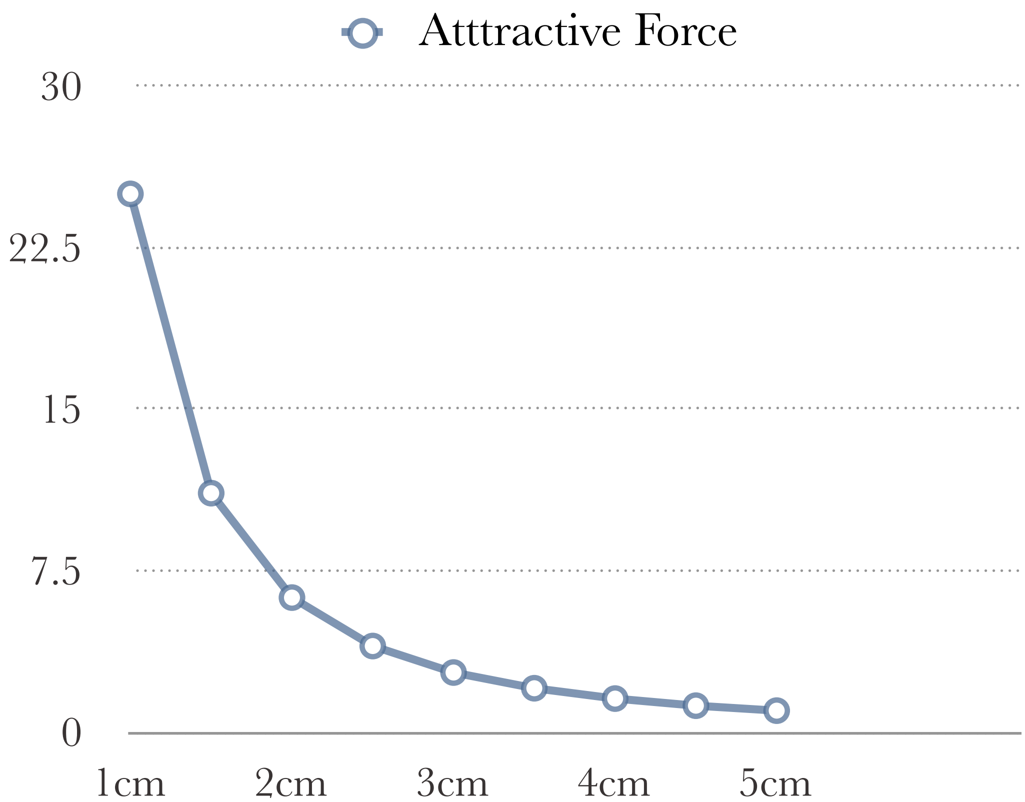
Magnetism

We are all familiar with magnetism as magnets are easy to come by and we've all played with them. We know that they have two poles, commonly called north and south.

We know that two magnets are strongly attracted the closer they are to each other and that their attraction weekens quickly as the distance increases between them. In fact, the truth is that the force between magnets is inversely proportional to the square of the distance between them. In other words...

Force of attraction = Magnetic properties / distance squared

Here's an example. You hold two magnets apart at a distance of 5cm. As shown in the graph below, the force of attraction is 1 Newton.

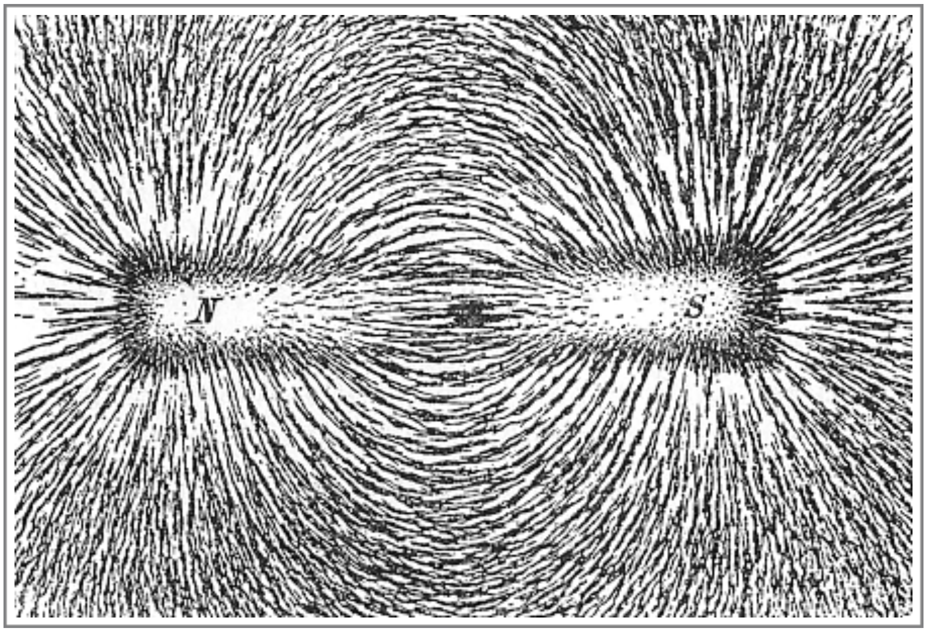


Look what happens to the force of attraction as the magnets are brought close to each other. In this example, the magnetic properties on the above equation are equal to a random number I picked...25. All I did to make this graph was to use the equation on the previous page. Starting from the right side of the graph (5 cm) you can see the force is small. Going to the left side of the graph the force of attraction gets big fast. This is what is meant by an attractive force that is inversely (oppositely) proportionately to the square of the distance.

This is important!

Another factor in magnetism is the "magnetic field". Nobody really knows what a "field" is. We know there is something happening in empty space. We can see things affected in this "field". But, you and I know that there is simply empty space there and that the magnet is actually affecting objects in that space. The word "field" is used for lack of anything else. But what is happening in the space around a magnet? What is happening in this "magnetic field"?

Well, we know that if we take a bunch of stuff that is affected by a magnetic field (like little bits of iron) they do this...



That's a great picture of a magnetic field. All the iron filings line up with the field lines. The term "field line" is something scientists made up to describe what you see above. There aren't actually "lines" in space. But, for representation, everyone says that the more "lines" there are, the stronger the field is. Notice how the lines of iron filings get really close together near the North and South poles? We know that the force of attraction in those areas is really high compared to farther away. So we could go so far as to say the closer the lines are together, the stronger the field. Sometimes the lines are called lines of "force" for this reason. A "line" would have a quantity. I won't go into what the quantities are called, because you'd probably yawn and get disinterested when I told you. My objective here is to get you a conceptual understanding without having to quote the names of a dozen famous scientists (like Sir Isaac "Newton"!).

To summarize, magnetism has the following properties:

1. Magnets have two terminals.

2. The two poles of a magnet attract each other.

3. The attractive force is on a ratio with the inverse square of the distance... Force=magnetic properties/distance squared

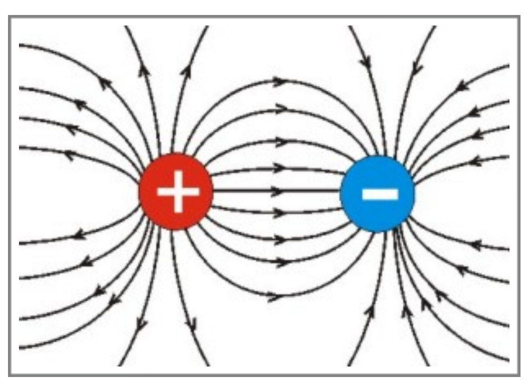
4. Magnets affect the space around them in what is called a magnetic field. This field can affect magnetizable materials.

Electrostatics

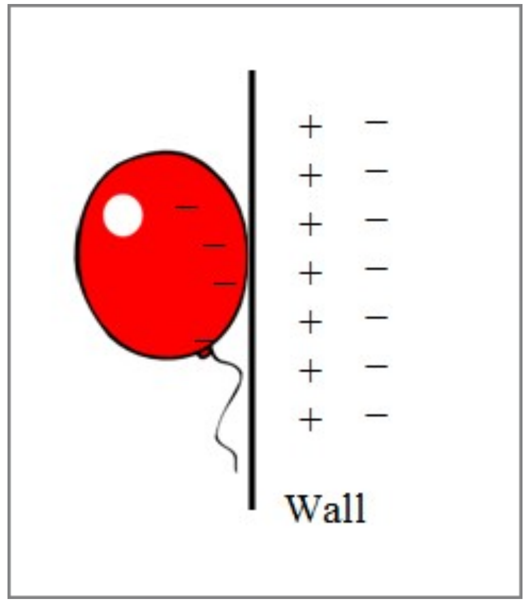
Elecrtrostatics deals with electric charges that are at rest. Electric charges are electrons and protons. An electron is said to be negatively charged and a proton is said to be equally-and-oppositely, posative charged. Electrostatics encompasses static electricity.

The charges in electrostatics aren't actually at rest. But they aren't flowing through a wire like in the electricity flowing through the wires of your house. The charges are, basically, staying on the surface of one or more objects. They are sticking there.

In the picture to the right, a girl is holding onto the terminal of an electrostatic generator. The generator has charged her body up with excess protons. So she's got a "static" positive charge because she's got more protons on her than electrons.



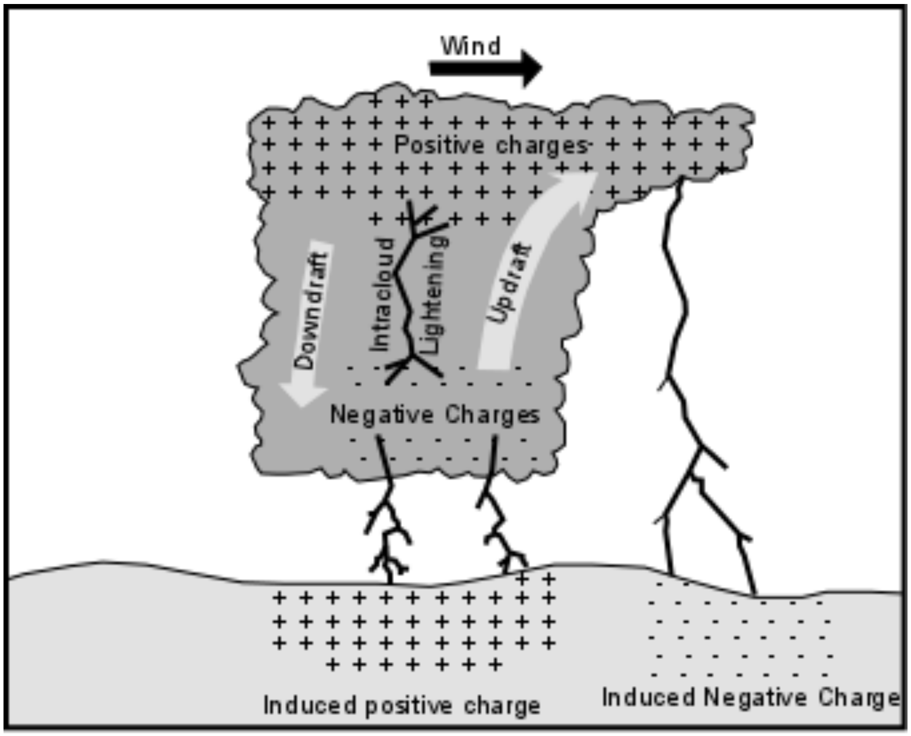
Electrons and protons attract each other just like the north and south poles of two magnets. The convention here on planet earth is that the electron is negative and the proton is positive. If an object (such as the girl in the picture) has more protons than electrons, that object is said to be positively charged. Conversely, if an object has fewer protons than electrons, it's said to be negatively charged.



A negatively charged object is attracted to a positively charged object.

How come we don't see more charged objects around? I'll tell you. Because when the negatively charged object touches a posatively charged object all the electrons jump across (in a spark) and neutralize both objects. They are then neutral and there's no more static electricity to play with.

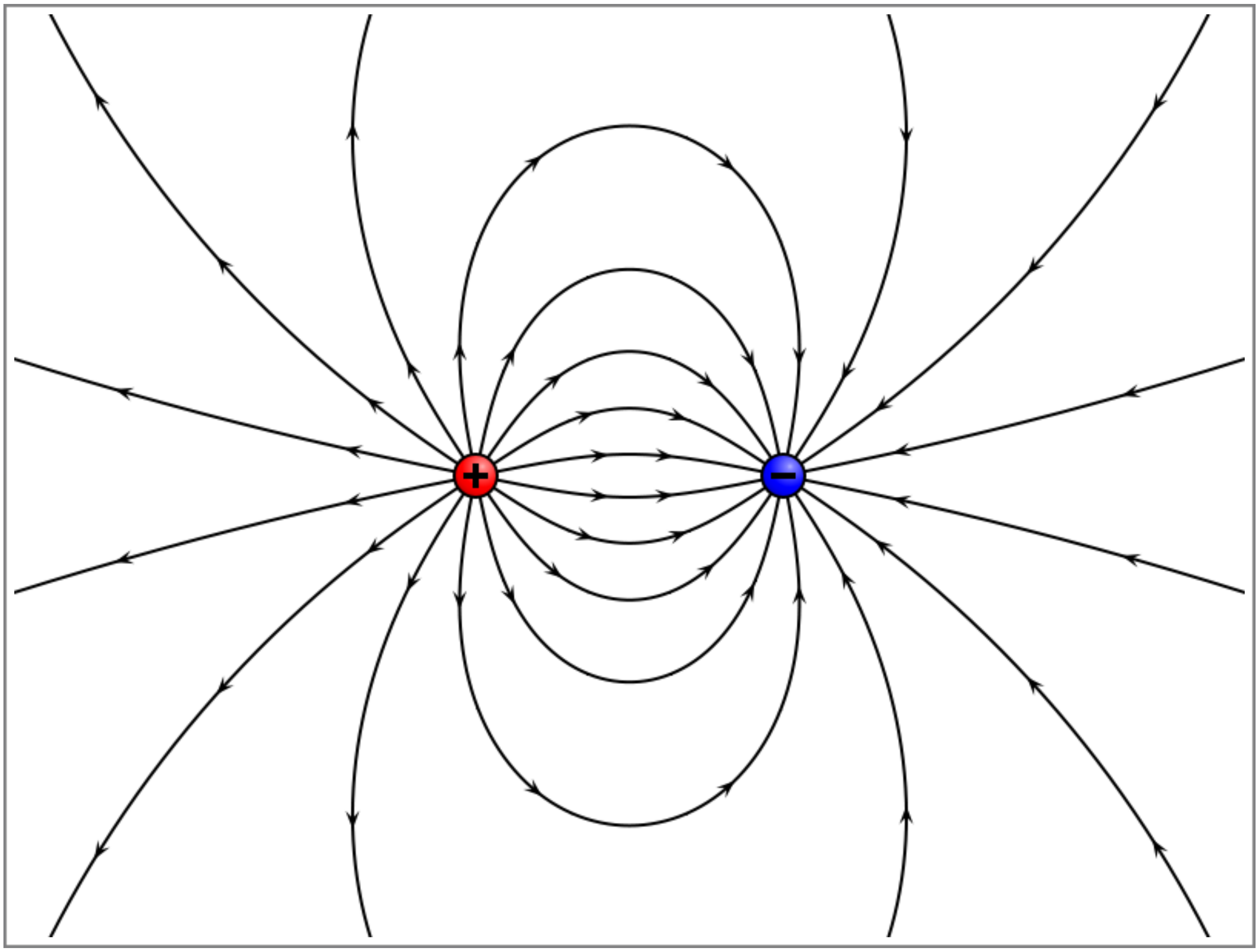
When an object is charged up and placed in proximity to another object with a neutral charge, the free electrons in the neutral object shift around. If the first object is negatively charged, it will repel the negative charges in the neutral object. That causes the near side of the neutral object to be positively charged. That's how charged objects can "stick" to uncharged objects.



After Abbott (1996)

If a cloud gets charged negatively at its base, the electrical charges in the ground, near the cloud, will be repelled away leaving a positive charge, like in the picture above. You can't see it, but there is a strong electrical field underneath a thunderstorm. Air is holding the charged cloud and ground apart. Air can hold a lot of charge apart between two terminals!

Another thing to know about the Electric Field is that when a charged particle is dropped into one, it will fall toward the opposite charge with an accaleration like



gravity. And, like gravity, the force on a charge is (like magnetism) inversely proportional to the square of the distance. The force on a charged particle in an electric field is...

Force = Electric Properties/distance squared

Remember what the formula for a magnetic field was? Here it is again...

Force = Magnetic Properties/distance squared

Ah, intriguing! There are some real similarities here. But what does gravity have to do with all this? Let's check that out right after a little summary.

To summarize, electrostatics has the following properties:

1. It involves two terminals.
2. The two terminals, the proton and the electron, attract each other.
3. The attractive force is on a ratio with the inverse square of the distance...
   Force = Electric Properties/distance squared
4. Charged objects affect the space around them in what is called a electric field. This field can affect other electrical charges.

Gravity

Gravity also follows a formula that is inversely proportional to the square of the distance.

Force = Mass and Space Properties/distance squared

In other words, an object is attracted to the earth less and less as the object moves away from it. The pull on Pluto, from the Sun, is less than the pull of Earth from the sun.

It would seem gravity also has a "field". Massive objects obviously influence other objects in their vacinities. So we could say there are lines of force around objects with mass. So there is a gravitational "field". But what about two terminals? Are there plusses and minus's, posatives and negatives? The apparency is that there is not. But the Capacitance Theory of Gravity (CTG) shows that there are! More about that in a few... Right now let's look at the gravitational formula.

F = G x M1 x M2 /distance squared

F is Force of attraction between two objects

M1 is the mass of object 1

M2 is the mass of object 2

G is a bugger factor. When Isaac Newton first figured out this formula he couldn't make it work. So he added a number to make everything balance out. G is called the "gravitational constant". It has been used for so long and is so ingrained into scientific thinking that nobody questions it anymore. Nobody says, "Gee, why didn't your formula work? What's that number you had to add in?"

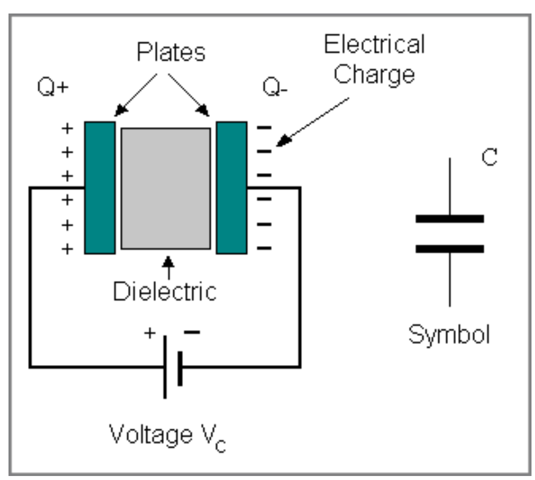
"G", the "gravitational constant", is 0.00000000006673 meters cubed divided by kilograms and seconds squared. You see, not even the units worked out in the gravitational equation. All those units are part of the bugger factor. Something is wrong with the gravity equation above. But, until now, nobody could figure out what.

For gravity to perform like electric and magnetic fields the following would have to be true:

1. It would have to have two terminals, which is missing in the current view of gravity.
2. The two terminals would have to attract each other somehow.
3. The bugger factor in the gravity equation would need to be gotten rid of.
4. The gravitational field would have to be quantified somehow. Right now there is no method of quantifying a gravity field. What is the factor in space that says there is gravity or not?

Capacitance

Capacitance is the measure of the ability to store electrical charge. When you use something like a battery to charge two plates you get a charge storage due to attraction of the opposite particles. Once the plates on a capacitor are charged, you can remove the battery and the plates will hold their charge.



A capacitor is something that is designed to hold opposite charges apart. In doing so, the energy, in the form of electrical charge, is stored.

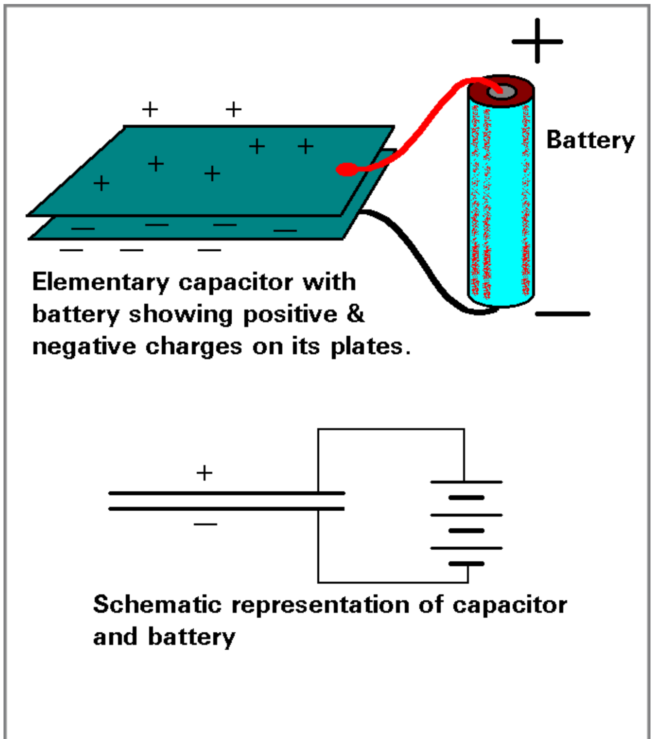
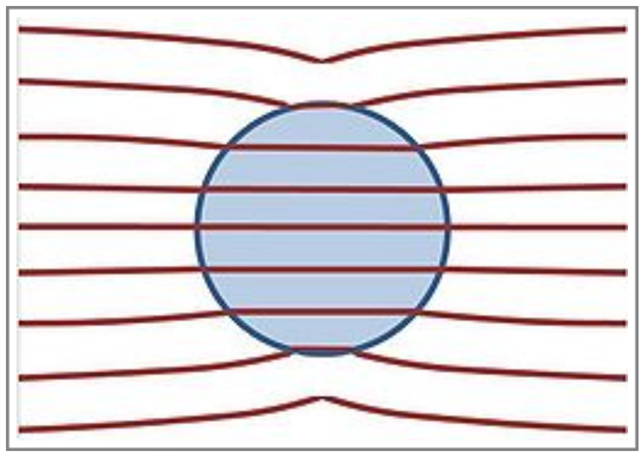


Figure 3.

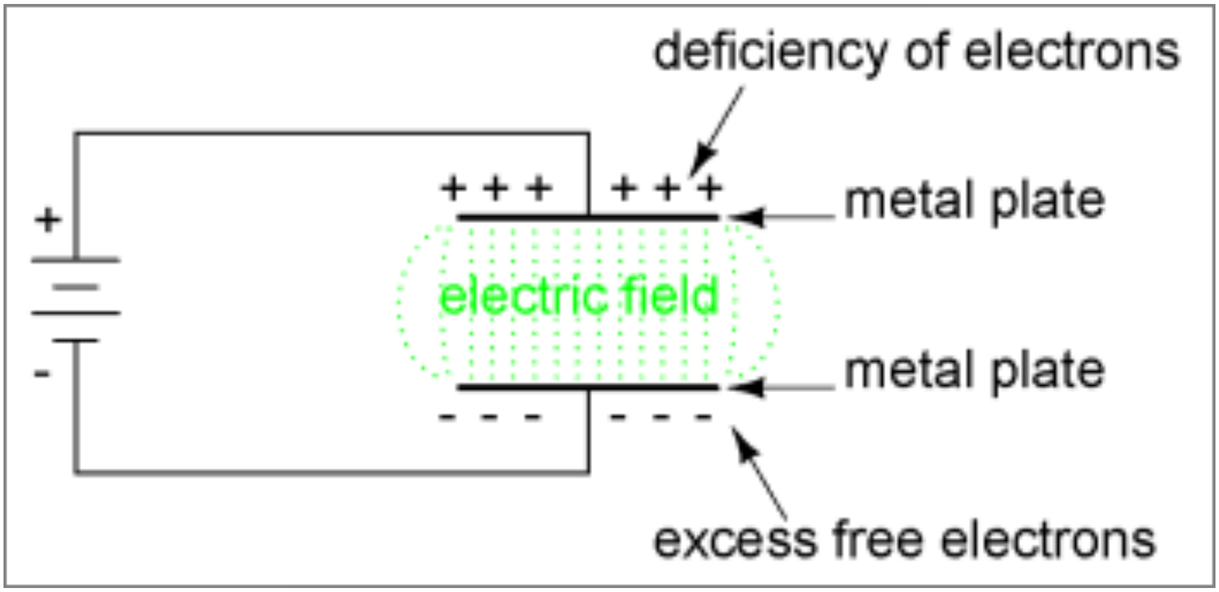
Capacitors come in many shapes and sizes.

Capacitors are made with two conductive plates with a dielectric sandwiched in between. The **dielectric** is a material which focuses the electric field yet does not let any electricity pass from one plate to another. Some materials used for dielectrics are paper, rubber and oil. These materials all focus the electrical field which results in a stronger capacitor (more charges being held apart). There are materials that are good at focusing electric fields (like copper) yet poor at holding charges apart (like copper). The worst thing there is at focusing electric fields is empty space (vacuum). Also, empty space is very similar to dry air. Empty space is a pretty good insulator. But it's poor at focusing electric fields. So, air or empty space is often used as the dielectric in a capacitor. It does work. But other materials work better.

Here is a simple picture of the a dielectric focusing an electric field.

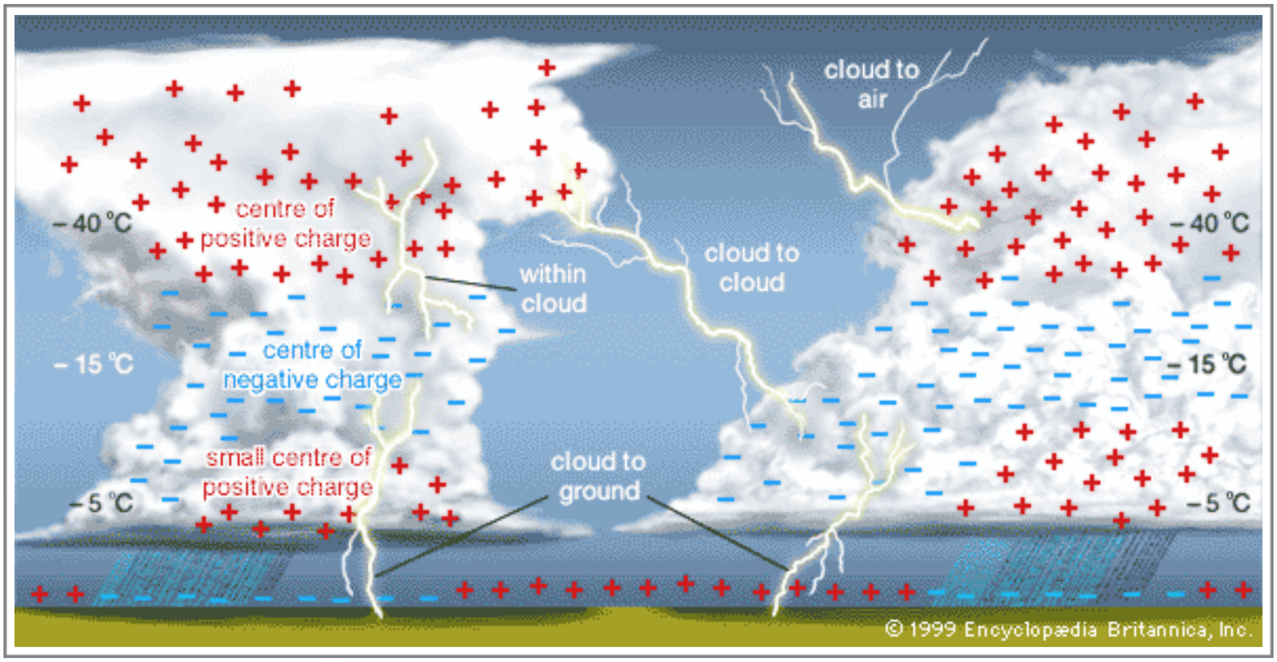


The electric field in a capacitor is relatively straight forward. Remember that the imaginary lines drawn to represent an electric field show where a posative charge would travel if dropped into that field.



In the previous picture the electric field is shown in green. Notice how the edges are bowed out? This will become very important in the Capacitance Theory of Gravity. This distortion in the electric field is called a fringe effect. It's not very strong compared to the rest of the field. Nonetheless, it is always present on the edge of a capacitor.

Can you think of any natural capacitors in nature? There's an obvious one. A thunderstorm! Remember, a cloud with a negative charge is a distance away from the ground separated by the clear air beneath it. The positive charges in the ground are repelled away, leaving a positive charge. The cloud of a thunderstorm and the ground make a giant capacitor! And the charge builds up so great that it arcs across. That's lightning!



In this picture of thunderstorms, there are multiple examples of capacitors going on all at one time. Remember, air, like empty space, is a good insulator but poor at focusing electric fields. So air can make a somewhat decent capacitor between the clouds and the ground.

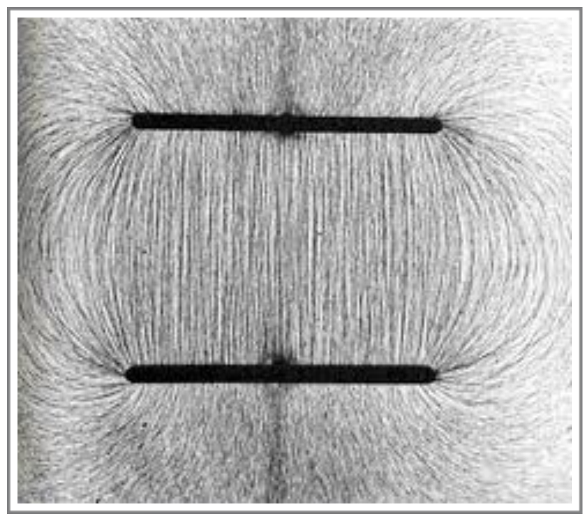
When the charge reaches a critical level in a capacitor, the dielectric (in this case air with rain in it) can't hold back the charges anymore and they (CRACK!) shoot across in a big bolt of lightning.

The Capacitance Theory of Gravity

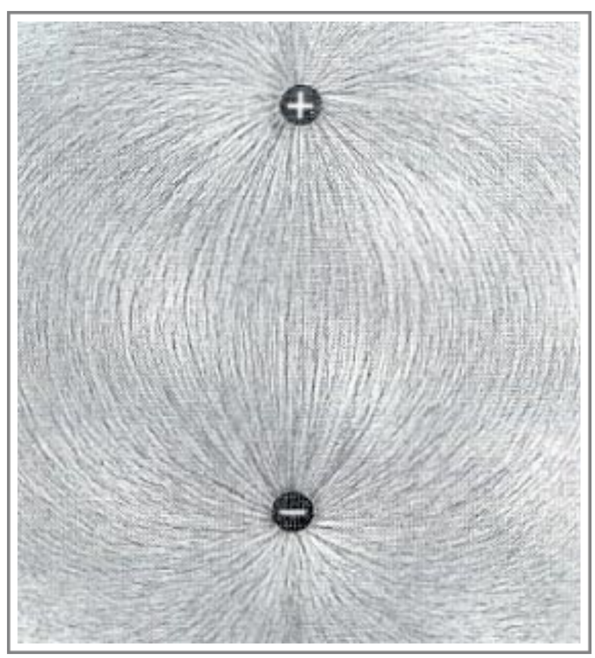
Attractive force

As demonstrated earlier, when two objects with opposite charges are in proximity, there is an attractive force between them. A capacitor is fixed in space so the two terminals, positive and negative, don't come into contact.

Here you can see the attractive lines of force between negatively and positively charged plates.



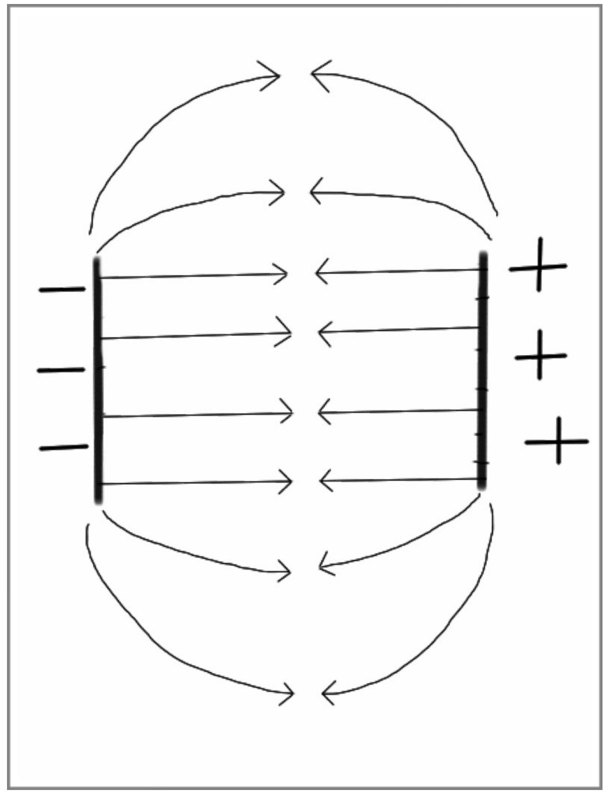
Here is a picture of the attractive forces between the simulation of two charged spheres. In the Capacitance Theory of Gravity particles are considered as solid metal spheres. Whether they are actually like that doesn't matter, because the representation works in all the math formulas. So, since it's so workable, electrons are considered like solid, metal spheres.

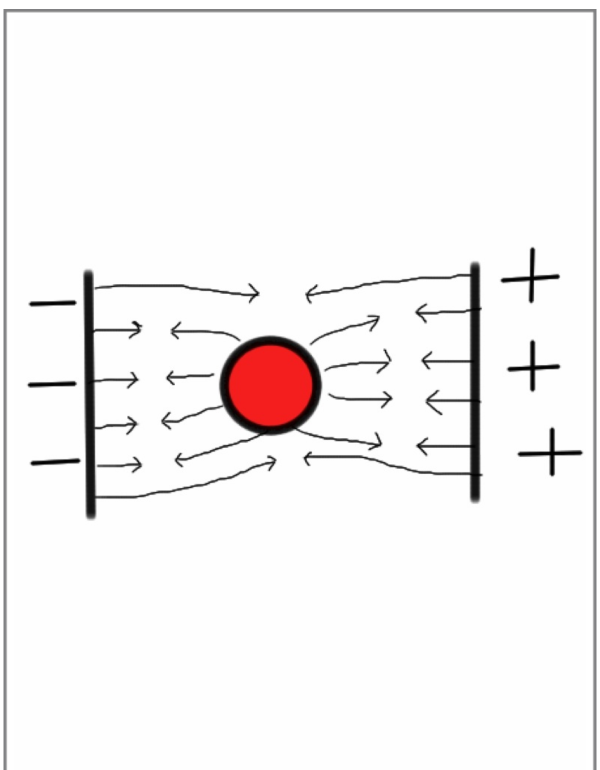


The Dielectric Object

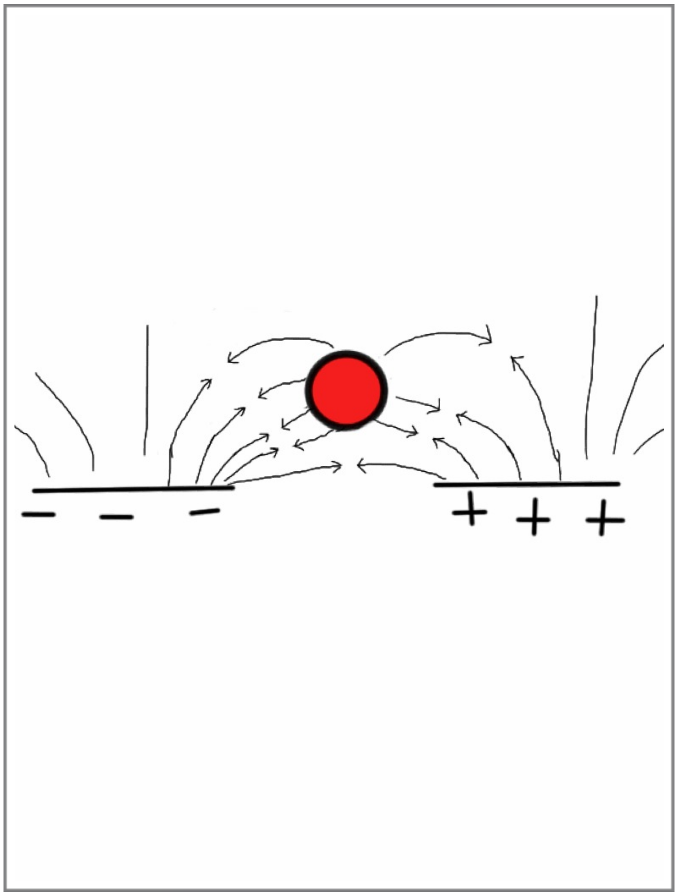
A dielectric, has the ability to pull in the electric field lines of force. In other words, it pulls in the attractive lines of force. Below is a series of rough sketches I've drawn to show you how this works.

First I want you to see what the attractive lines of force are between two ordinary plates of a capacitor. The left plate is negatively charged and the right plate is positively charged. The lines with arrows represent the attractive forces involved. The plates are held fixed in position so they can not snap together.



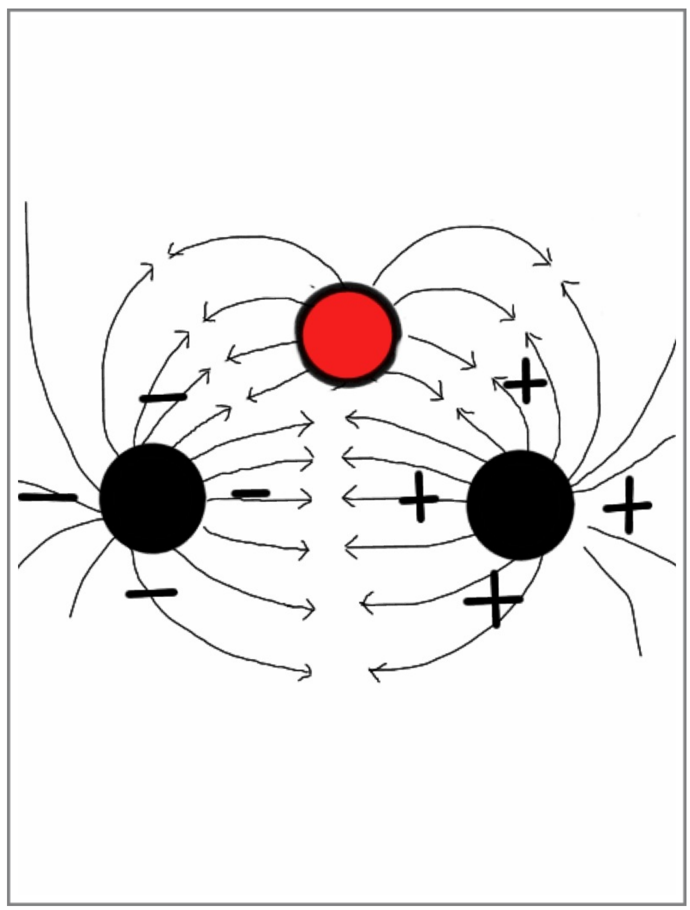


Now we put an object in between the plates. This object has dielectric properties that inhibit the flow of electricity yet enhance the lines of force. This object is electrically neutral. Yet, when it's in the electric field, it is pulled toward both plates equally.



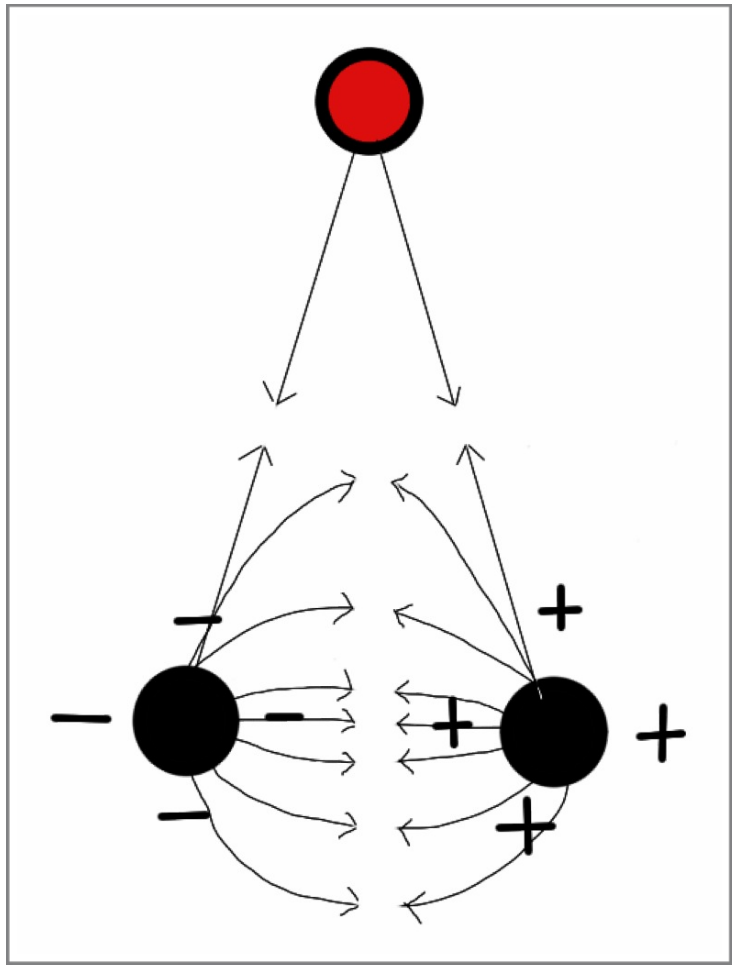
Now we put the two charged plates on their side. There is still an attractive force between them but the electric field is slightly differenet. The dielectric object still pulls in the attractive lines of force. The plates are also still attracted to each other.

Now, instead of plates, let's use spheres of charge. A very similar field appears. Our neutral, dielectric object is still attracted to both charged spheres with equal force.



Now let's increase the distance between the two charged spheres and our dielectric object. Intuitively we know that the attractive force between the dielectric object and each charged sphere is going to get a lot weaker. In fact it decreases with the inverse square of the distance, just like gravity and magnetism! Nevertheless, the attractive force is present, no matter how weak it is.

The two charged spheres attract each other much, much more than the dielectric object is attracted to the two. But, remember, the dielectric object is still influenced by the electric field. It's still attracted to both of the spheres equally.

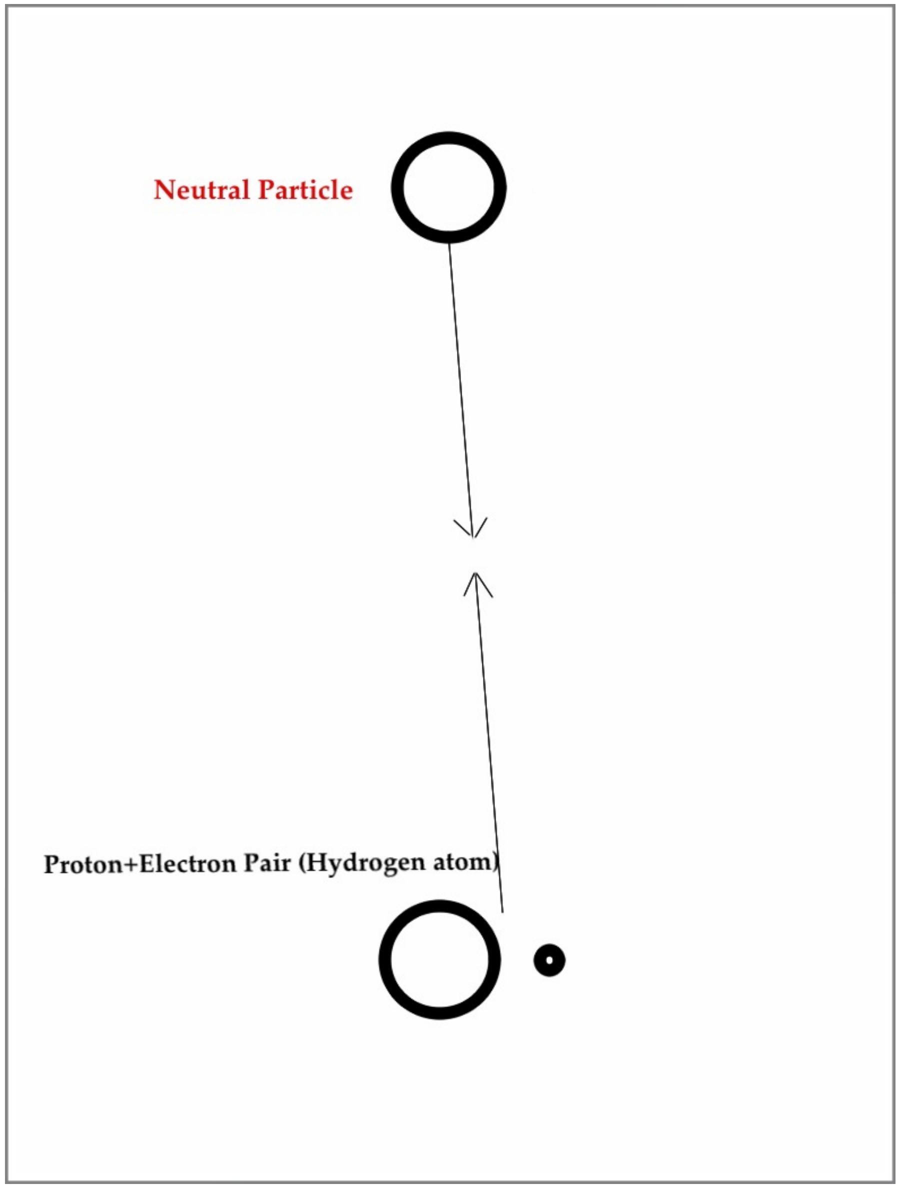


Now substitute our dielectric particle for any neutrally-charged object. All objects have some sort of dielectric property. Every material known to exist pulls in electric fields more than empty space does.

Substitute our charged spheres for a proton and an electron and call it an atom (in this case an atom of Hydrogen).

There is still an attractive force between our object and our atom. The force is very, very week compared to the attractive force between the two charged particles in our atom.

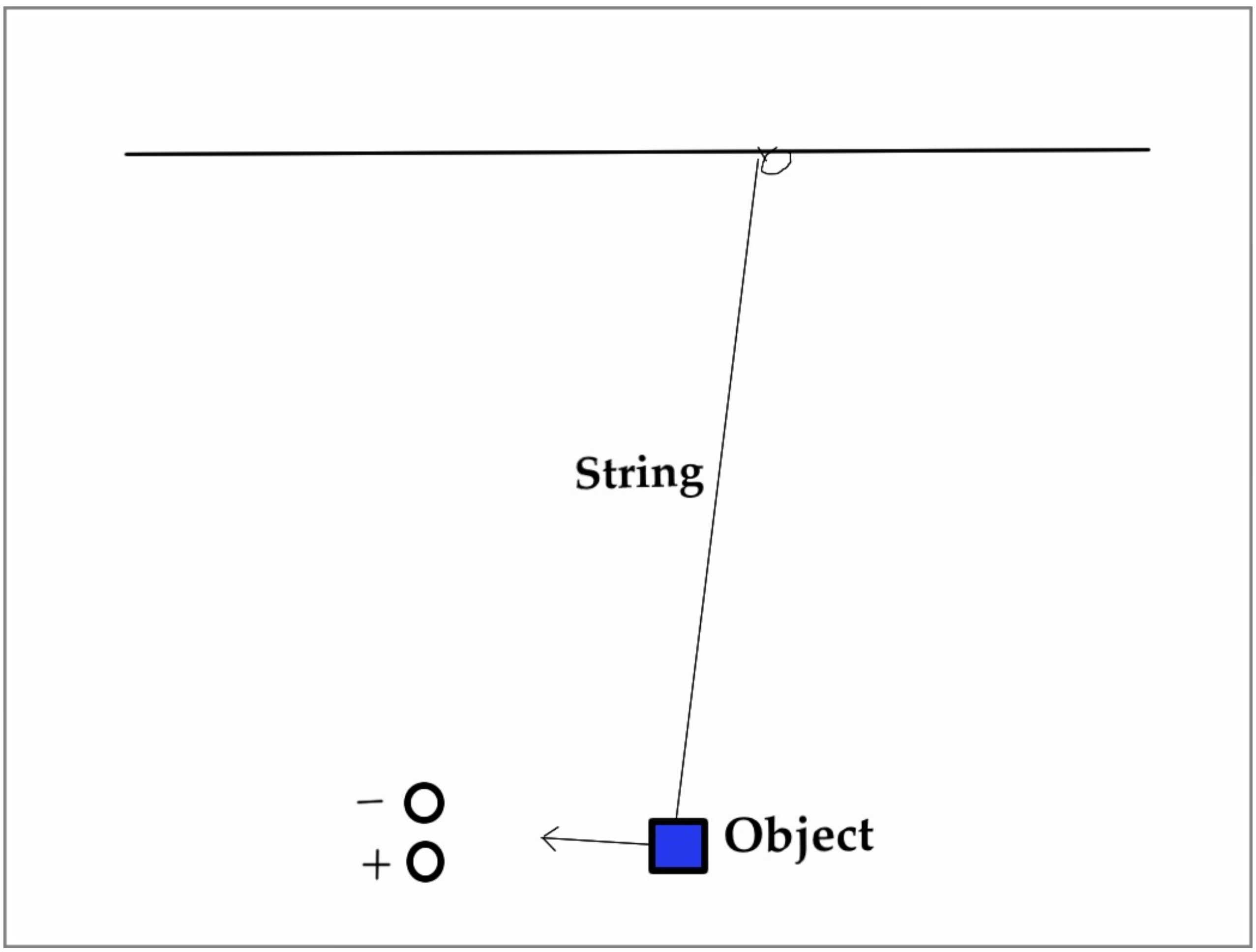
THIS IS GRAVITY!!!!!!!!!!



Experimental Proof

In Morton Spears' books on the Capacitance Theory of Gravity he shows how to do a couple of very simple experiments to demonstrate the main principal. Here's how it works...

You have to place two charged terminals in close proximity and fix there position so they don't move. Then you hang an object from a string close to them. The object is attracted to the two charged terminals.



If you use a constant voltage, you need to use a voltage of around 10,000 volts for this to be readily apparent. However, 60 Hz AC, coming right out of the wall, works just as well. It doesn't matter which terminal is charged, so long as they are opposite.

Goodbye Quantum Mechanics

The subject of Quantum Machanics has been the only theory to even grope at what gravity is until now. Quantum Mechanics is unbelievably complex. I've tried and failed to understand it, even though I minored in mathematics in college. The term "quantum" means quantity. The physicists involved with the theory of quantum mechanics have been trying to find the smallest particles in order to find THE basic particle. I think they believe they've found over 200 particles smaller than the atom. One of the particles they (theoretically) believe is out there is the "graviton". This is a particle they think makes gravity! Ha ha ha ha ha. The theory that gravity is from particals makes me laugh maniacly. Thankfully, the Capacitance Theory of Gravity introduces a new model for the atom that fits all his gravity equations very elegently. This atomic theory also satisfies L. Ron Hubbard's statement that this is a "two terminal universe."

Up to now, the problem I've always had is that there are THREE particles in the atom. The electron, proton and neutron. This doesn't satisfy the "two terminal universe" concept.

Spears has used one particle the quantum mechanics guys came up with. That's the POSITRON. This is a particle that has the same mass and energy as the electron but an opposite charge.

THE NEW, THEORETICAL, ATOMIC MODEL

The two particles (i.e. the two terminals) of this universe are the electron and the positron.

Atoms consist of electrons and positrons and nothing else.

Protons are composed of 1089 positrons and 1088 electrons.

Neutrons are composed of 1090 positrons and 1090 electrons.

I don't know how or why a proton or neutron is held together...just that they are.

Gravity is the attraction of the dielectric objects in the presence of distant pairs of electrons and positrons. As all matter is made up of electrons and positrons, all matter attracts each other in this manner.

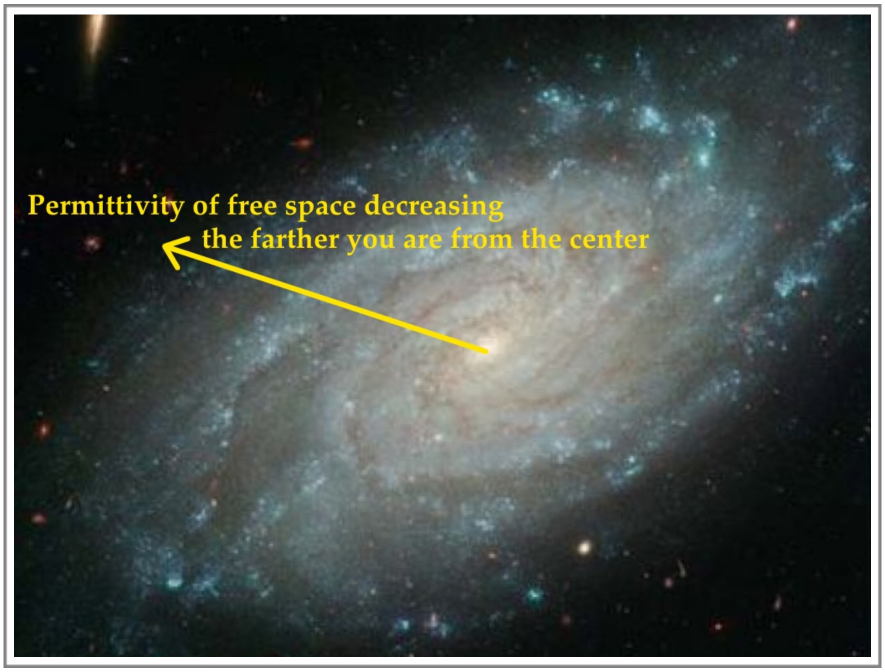
There is no such thing as a "gravitational field". There is only the electric field. Magnetic fields also exist but are not too important in this theory.

Wow!

This theory opens the door to a huge vista of new thought in physics.

It also disproves the theory of "dark matter." Dark matter is something physicists have come up with, but never perceived, to answer the conundrum of how galaxies spin. It has been observed that the stars in the outer parts of galaxies are spinning much, much too fast to simply be in orbit around the center of the galaxy. They should all be flying off into space because of their extreme velocity. But they don't. So what's going on? Well, remember that I said a dielectric object always pulls in more force lines than empty space? Well, what if *empty space's* properties changed a little? What if the dielectric effect of empty space got a little worse? So that an object placed into it pulled in more lines of force than compared to the same object in the empty space in the middle of a galaxy. Mathematically, Morton Spears demonstrated that a change in the dielectric property of empty space of just 1 billionth of a percent would increase the effect of gravity 100 times. So the conclusion is that the dielectric effect of empty space gets less and less as you go from the center of a galaxy to its edge. It doesn't have to change very much for this to happen.

It follows that when the dielectric property of empty space gets smaller, mass and momentum increase. So it is postulated that objects at the edge of a galaxy are heavier than they are at the center. That's the theory.



SPEED OF LIGHT

There is an equation that directly links the speed of light with the dielectric and magnetic properties of empty space. That equation is...

$$C^2 = \frac{1}{e\,m}$$

C = Speed of light

e = the electric/dielectric field property of empty space (the actual term is permittivity of free space)

m = the magnetic field property of empty space (the actual term is permeability of free space)

This is a very-well proven and established formula. Thus, if you change "e" (the ability of space to suck in electric field lines of attractive force) you can change the speed of light. So, in the theory that "e" decreases as you go toward the edge of the galaxy, the speed of light would increase farther out in the galaxy.

I don't know what these values would be in between galaxies.

Some New Nomenclature for You

If you forgot your college physics then you don't know these terms. **Permittivity** of free space is this thing that is represented with "e" above. It is the ability of free space to pull in electric fields. Currently, there is nothing worse than free space at pulling in electric field lines of force. In other words, empty space doesn't have much affect on electric lines of force.

However! Not all empty space is equal. It is postulated that it changes, ever so slightly, from the center of a galaxy to its edge. If the permittivity of space can change then it follows that it can causatively be changed with machinery. What if there were a way to alter the permittivity of free space? Hey, if we could figure out a way to ***change*** the ***permittivity*** of ***empty space***, we could build one hell of a space ship propulsion system! If we could handle the permittivity of the space *inside* a space ship, we could create artificial gravity!

Does anyone know how to alter the permittivity of space? Actually, no, I don't think so. Also, I don't think anybody has ever tried. This leaves the R&D for such a thing wide open. It's a whole new area of physics nobody has ever explored.

If the money spent building particle accelerators to find "smaller" quantum particles was put into discovering ways to alter the permittivity of free space I think we'd have the problem licked very quickly.

If a bunch of mathematical smarty-pants guys continued the late Professor Spears' Capacitance Theory of Gravity I'm sure they would come up with wondrous new ideas on what could be done with the concept. With increased knowledge about something comes increased control of that thing.

If the atomic model of Professor Spears was accepted and replaced in the minds of physicists, I believe they would start working out more ways to handle electricity and magnetism. Also, with the concepts of permittivity, I believe a greater understanding of the universe would ensue.

It is my own theory that the permittivity of free space in clusters of stars is vastly different than around the earth. Has anyone else wondered why a star cluster doesn't collapse in on itself? Huh!?

My bet is that permittivity of free space, for whatever reason, is much higher in a star cluster than we have in our earth area of space. It's my theory (actually, it's more of a hunch) that objects aren't attracted to each other so much in the area of a star cluster. The same goes for the center of any galaxy.

Conclusion

I'm a pilot. I fly jets. They are slow and boring. I want to fly space ships that don't run out of fuel when you reach low earth orbit (like rockets). It is my hope that if this theory is spread around enough, that some great, scientific thinkers will start using it to control gravity and we can turn earth into a space faring society. Wouldn't that be fun?

On a personal note, besides revolutionizing science, I also want to build a restaurant that floats in space over the great red spot on Jupiter. I think a lot of people would go there for a good meal and a nice view.

I think with the Capacitance Theory of Gravity there's a glimmer of hope of this happening. What do you think?

-James Heer