

A Theory of Everything

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Abstract

This paper reveals a hint to the deepest mystery of the Universe. Why are the laws of the universe the way they are? For example, why are the mass and charge of the electron what they are? Each and every phenomenon in the universe is predetermined.

Introduction

We know that every object or particle with mass in the universe has gravitational interactions with every other object or particle in the universe. We also know that oppositely charged particles nearby each other attract each other, while particles with similar charges repel each other. Physics tells us that there are four fundamental forces in the universe: electromagnetic, gravitational, the strong and the weak nuclear forces. The interactions are thought to be carried out by exchange of force particles (photons for electromagnetic forces, gravitons for gravitational force). In this paper, we propose a new theory for the origin of all forces in the universe.

Electrostatic forces

One of the deep unsolved mysteries in physics is the origin of the electrostatic force. The speed of electrostatic force is also one of the most confusing problems: finite or infinite? It is believed that the origin of the electrostatic force is the continuous exchange of photons. One of the puzzles is: what is the origin of these photons? Mainstream physics neither asks nor tells us anything about this. The puzzle is that we know that photons are emitted only by accelerated charges, but we also know that electrostatic force exists between two stationary electrons. We briefly introduce a new theory as follows.

Each elementary particle (for example, an electron) is not a point particle but exists spread in a finite region of space. An analogy would be a water pond. Each electron is an electron 'pond' with mass /charge density distribution. Just like a pond is never still because of the waves, the electron pond is fundamentally never static. The electron 'pond' is a dynamic system with waves of electron mass/charge density. The electron pond has infinite internal degree of freedom.

Therefore, even if the electron is conventionally stationary, i.e. it is not moving/accelerating as a whole, it is a dynamic system, with the center of mass/charge continuously changing. We

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propose that this intrinsic motion of the center of mass/charge of the electron is the cause of the emission of photons (force particles) from conventionally stationary electrons. These emitted photons are the cause of electrostatic force.

Static magnetic field may also be explained by a similar theory. When an electron is moving, its electrostatic field is modified, which can be seen as a magnetic field.

Origin of the charge of charged particles

What is the origin of the negative charge of the electron? Why and how does an electron repel another electron but attract a proton, i.e. what is the *mechanism*? So far physics neither explicitly asked nor answered such questions.

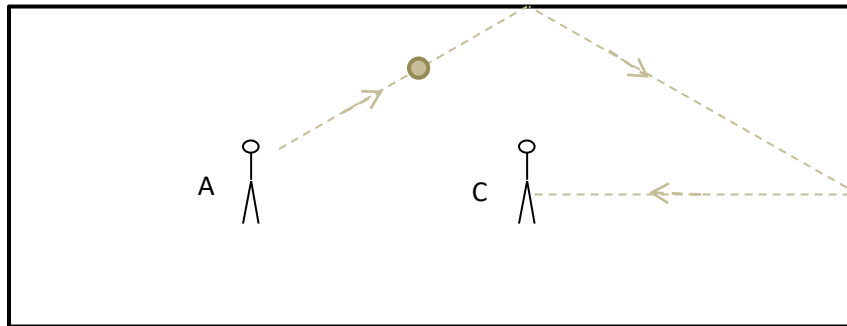
So what is the negative charge of the electron, i.e. what is the physical explanation/mechanism? What is the physical explanation of the negative charge of the electron and the positive charge of the proton?

The mystery of the charge of the electron is possibly revealed as follows. An electron A repels another electron B just because it always emits the photons in such a way that the photon pushes electron B *away from* electron A. Similarly, an electron attracts a proton just because it always emits the photons in such a way that the photon pushes the proton *towards* the electron.

This means that if a photon emitted from an electron A is to hit (is *aimed for*) another electron B, the photon is emitted in such a way that it will push electron B away from electron A. If a photon emitted from an electron is to hit (is aimed for) a proton, the photon is emitted in such a way that it will push the proton towards the electron.

Thus, there is no fundamental difference between elementary particles with opposite charges, for example the electron (negatively charged) and the positron (positively charged). Their difference is only because of the way each is destined to emit photons.

Let us use an analogy. Consider three persons in a room: A, B and C with some balls. Person A and person B are “negatively charged” and person C is “positively charged”. At first let A and B be in the room. Each has balls. Since A and B have “same charge”, each throws balls directly at the other, and therefore pushing the other *away from* themselves. Next, let A and C be in the room. Since A and C are “oppositely charged”, A throws the ball not directly at B, but towards the wall, so that the ball will hit B after bouncing off the wall, in such a way that B is pushed *towards* A, as shown in the figure below. (The same applies to C).



We can see that there is no fundamental difference between A and C. The difference between them is only because of the *rules*. The rule says that whenever A sees B, he throws the ball directly at him to push him away (because they are “similarly charged”) and whenever A sees C he throws the ball towards the wall in such a way that the ball bounced off the wall will hit C and push him towards A. This means that if the rules were changed A and B could be made to have “opposite charges” and A and C “similar charges”, or all of them could be made to have similar charges. But we assume that the rules are always the same and do not change because nature does not change the charge of the electron which is always the same.

The mass of elementary particles

So far we have concerned ourselves with the charge of particles. Similar theory applies to the mass and other properties of particles. Elementary particles differ in their masses not because of any intrinsic differences between them but because of the *rules*. How can we explain the mass of elementary particles? Mass could be explained by the internal dynamics of elementary particles, which is predetermined by the initial conditions of that particle.

Internal dynamics of elementary particles

We have stated that the charges and masses of elementary particles can be only due to the fixed *rules* of nature, not because of any intrinsic, fundamental difference between the particles. But what makes an electron emit a photon that always pushes another electron away? It is the internal dynamics of the electron itself. It is because of “coincidence”. In our everyday life, coincidences are extremely rare. But “coincidences” *always* happen in the most fundamental laws of nature, such as an electron *always* repelling another electron and *always* attracting a proton. But, as we will see later, these are not coincidences. It is the way the universe is programmed. By “programmed” I mean that the initial conditions of the *internal dynamics* (this is unknown to current physics) of every elementary particle in the universe has been set in such a way that the laws of nature are the way they are. Considering the number of particles in the universe, this requires infinite intelligence, pointing to a supernatural intelligent being. We will clarify this further later.

Does every particle in the universe *actually* interact with every other particle in the universe by exchange of force particles?

It is universally believed that every object/particles in the universe *actually* interacts (electromagnetic or gravitational) with every other object/particle in the universe. Let us see how this is simply impossible. The estimated number of atoms in the observable universe is 10^{82} atoms. Therefore, the number of elementary particles in the universe is much greater. It is impossible for an electron to exchange 10^{82} photons per second (at least). But we know and accept that the laws of gravitation apply precisely enough, i.e. it is as if the electron actually interacts with every other elementary particle in the universe. If a particle/object cannot actually interact with every other particle/object in the universe, then how is it that the law of gravitation apply so well? (or we believe that it applies so well). The mystery is revealed as follows.

The gravitational force acting on our Earth, for example, is not necessarily caused by the “gravitons” from *every* object in the universe. But the *actual, measured* gravitational force on Earth is *as if* this is precisely the case. How can we solve this puzzle? The mystery is that the gravitons hitting the Earth can come only from a very small fraction of particles in the universe. The gravitons emitted from those particles/objects towards the earth are so extremely *fine-tuned* to match the gravitational force on Earth if every object/particle actually interacted with Earth.

As another illustration, suppose that we have one trillion charged particles in a room. It is universally assumed that each particle exchanges force particles with every other particle in the room, which is impossible as we have argued. What actually happens is that a force particle (photon) hitting an electron at any instant of time could come from any other single particle, with that photon so *fine-tuned* that the force on the electron is *exactly* as if that electron exchanged photons with every other particle in the room, with the force exactly as predicted by Coulomb’s law. This is made possible by the grand programming of the universe, i.e. the fine-tuning of the initial conditions of the internal dynamics of the particles, which have infinite internal degree of freedom. This is another way of saying scientific proof of God.

What is gravity?

In my previous papers, I proposed that the gravitational force between two objects is a difference between electrostatic attractive and repulsive forces between the particles of two objects. However, according to the new theory being proposed in this paper, this does not necessarily mean that two photons (one attractive, one repulsive) must *actually* hit an object for a gravitational force to arise. What is actually happening is that an extremely weak photon (‘graviton’) hits the object, with its effect as if two photons (one attractive, one repulsive) hit the object. A ‘graviton’ is nothing but an extremely weak photon.

One may argue that why then it is impossible to shield gravitational field, unlike electrostatic field. This could be explained by gravitons being extremely weak photons, therefore extremely

small frequency photons, unlike electrostatic photons which are much stronger, therefore much higher frequency photons.

Therefore, as stated above, it would be wrong to think that every object in the universe *actually* exchanges ‘gravitons’ with every other object in the universe. The graviton hitting a particle at any instant can come from any particle in the universe, and it is so extremely fine-tuned in such a way as if the particle interacts with every particle in the universe.

The speed of electrostatic fields and gravity

It is well known from observations and experiments that the speed of electrostatic and gravitational fields is infinite. But, on the other hand, this infinite speed view does not seem to have a mechanism and therefore not acceptable. Also some gravitational phenomena, such as Mercury perihelion advance, hint at a finite speed of gravity, equal to the speed of light (c). How can these contradictory ideas be reconciled? The mystery is solved as follows.

Suppose that the Sun disappeared instantly, at $t = 0$. Obviously, sunlight would disappear after about 8.3 minutes. What about the gravitational pull of the Sun on Earth? A novel solution is proposed as follows. The gravitational force of the Sun on Earth disappears instantaneously as the Sun disappears. How can this be? Just 8.3 minutes before its disappearance (at $t = -8.3$ minutes), the Sun, having a “foreknowledge” (anticipating) that it would disappear after 8.3 minutes, sends a signal of zero gravitational field towards the Earth, which travels at the speed of light. The zero gravitational field arrives on Earth after 8.3 minutes, at $t = 0$. Thus, the disappearance of the Sun and the loss of gravitational force on Earth both occur at $t = 0$. It is as if the zero gravitational field travelled at infinite speed. Therefore, we can say that the speed of gravity has *dual* nature: infinite and finite (c).

But how can the Sun have a “foreknowledge” of its disappearance? The mystery is the grand initial programming (initial conditions) of the universe and the complex internal dynamics of elementary particles. By “coincidence” the particles of the Sun emit zero gravitational field towards the Earth at $t = -8.3$ minutes. But, as we already discussed, this is not like “coincidences” we know in our everyday life which occur extremely rarely. These are coincidences that always happen so that the laws of the universe are the way they are. This is a scientific proof of God.

Two kinds of photons: light photons vs. force carrier photons

A photon is emitted by an accelerating charge. However we make a distinction between two kinds of photons: ‘light’ photons and ‘force carrier’ photons. We are familiar with light photons in physics. However, the origin of force carrier photons, which we have already explained above, is unknown to physics.

The mystery of force carrier photons is this. Imagine two charged particles Q_1 and Q_2 with some distance apart. Suppose that at time $t = 0$, charge Q_1 is suddenly accelerated from its initial position to a new position. The question is: will the sudden acceleration and change in position of Q_1 felt by Q_2 instantaneously or with the delay of the speed of light? The answer is that Q_2

senses the change in position of Q_1 instantaneously as it occurs. How is this possible? Is it because the electrostatic field propagated at infinite speed? No. The mystery is solved as follows.

Charge Q_1 ‘anticipates’ its own acceleration and change in position before it actually occurs and emits corresponding photons, say at $t = -\tau$, where τ is the time delay due to finite speed (speed of light, c) propagation of the force particles from Q_1 to Q_2 . Therefore, the ‘force carrier’ photons emitted at $t = -\tau$ are emitted for a phenomenon (acceleration of Q_1) that will occur after a delay of τ .

Predetermination? Free will?

The above theory suggests that everything in the Universe is predetermined, in the same way that the point on the ground where a ball kicked into the air lands is predetermined at the instant the ball is kicked, when the initial conditions (speed, direction, spin etc.) are determined/set.

The initial conditions of the internal dynamics of every particle in the universe was set at some point in the past and *everything* happening in the universe, including on our Earth, is predetermined. A boy throwing a ball into the air, a woman driving a car, a rain droplet falling on the roof, an ancient man throwing a spear at a Gazelle, a lion chasing a zebra, a building standing somewhere, a physicist doing an experiment in the lab, the motion of each and every particle in the plasma of the Sun, an asteroid falling on Earth, and so on, all these occur because they were predetermined.

Does this mean that we don’t have free will? No. When I throw a stone into a pond, the decision to throw the stone is because of my own free will, but the motion of my hand, the projectile motion of the stone in the air, and its hitting the water, the water waves (motion of every water particle) is predetermined. In other words, our free will determines *retroactively* what was to be predetermined.

One might argue that the decision itself will be predetermined according to this argument. We argue that the decision is made in another “dimension” which is immaterial and not subject to predetermination.

Intervention of God in the Universe?

When I say God intervenes in the operation of the Universe [1], this should be interpreted as follows: the intervention of God in the Universe is mainly by setting the initial conditions of the internal dynamics of every particle in the Universe. Therefore, God has already intervened in the operation of the Universe when He set the initial conditions of the internal dynamics of each and every elementary particle in the Universe.

Conclusion

This paper has revealed a hint to the deepest mystery of the universe: why the laws of the universe are the way they are, why everything that is happening is happening. The internal dynamics of elementary particles, with infinite degrees of freedom, and the initial fine-tuning of each and every elementary particle in the Universe explain everything in the universe, including the laws and phenomena of nature, the formation of atoms and molecules and bigger objects, motions of objects, and even everyday occurrences in our daily lives.

Thanks to Almighty God Jesus Christ and His Mother Our Lady Saint Virgin Mary

References

1. *Light Speed, Absolute Motion and Quantum Phenomena- Does Nature Have a Foreknowledge of Observer's Motions and Actions? Scientific Proof of God.* , by Henok Tadesse

<https://www.vixra.org/abs/2007.0162>