Force Echelon Axiom Theory[1]

Huhnkie Lee[2]

A theory is presented that is an alternative to, if not a disproof of, Einsteinian General Relativity theory. If not a mathematical disproof, perhaps a metaphysical displacement rather. A replacement. Any objections? //!-)

The discussion of physics is followed by a discussion of metaphysics relevant to the topic. A vertical hierarchy of forces in the universe is introduced.

Prologue

Hello everyone, thank you for your kind and generous readership //:-D This is a research paper, but I will keep it as entertaining as possible. Please enjoy-

I. Special and General Relativity Theories by Mr. Einstein

1. Einsteinian Special Relativity theory.

In our previous paper,[3] we presented an alternative to, if not a disproof of, Einsteinian Special Relativity theory. The main points were as follows. First, a scenario where A moves to the left while B stays still, should be equivalent to a scenario where B moves to the right while A stays still. But Einsteinian framework results in an asymmetry. Second, if there is a long string between A and B, and if A pulls the string in order to signal B, the speed of such signal is infinity, which is faster that the speed of signal by light.

Based on composition of such elementary concepts, like a child playing with Lego[4] blocks, we were able to demolish the Goliathan empire that Mr. Einstein built a century ago. Was Mr. Einstein a great scientist, or a great sorcerer?

---

[1] This paper is dedicated to the author's family members and friends who also played parental figures, eternal inspirers, and spiritual mentors to him in being there for him when no one else was, who corrected him when he was wrong, and who taught him life lessons and everlasting wisdoms. Started being written on 10/3/2020.

[2] A lawyer by trade, a mathematician by hobby, a U.S. Army veteran by record, a former computer programmer, a prior PhD candidate in computational biology, a former actor/writer/director/indie-filmmaker/background-music-composer. Born in the USA, 1978.

[3] See https://vixra.org/abs/2009.0211 . Although this author has reached the conclusions of this paper and the previous paper, there have been serious attempts and perhaps successes, if not widely accepted, to disprove Einsteinian Relativity theories. For instance, see https://www.goodreads.com/author/show/268911.Scott_Reeves .

[4] See https://en.wikipedia.org/wiki/Lego . See also https://www.biblica.com/bible/niv/matthew/18/ .

M: At least he was soberer.

A: Oh, Mr. Moose. Welcome back, Sir.

M: You are the great sorcerer. Well, you ain't famous yet so you ain't great. You ain't even a sorcerer as you knows not no magic trick. I know what you are. You're a corrupter of the youth. You're confusing people.

A: I thought that's what Mr. Einstein was. He confused a lot of people and he still does.

M: Mr. Einstein is an inspirer. You? A party spoiler. You are insignificant. You will quickly be forgotten.

A: Mr. Moose. You're so mean. Do you know why a pig is so well fed in the barn?

M: Isn't it because farmers have extra food they throw out, like left-over dinner?

A: That may as well be. But farm animals are well fed so that one day, they'd get slaughtered and be meat to us, Homo sapiens'.

M: I take offense to that.

A: Oh sorry, I forgot you're an edible animal too.

M: Oh please, stop it.

A: Hey, you're a residential moose, so nobody will hunt you. You're in a very safe place.

M: So why all of a sudden talking about farm animals?

A: I mean, Einsteinian relativity theories are like cash cows. How many books and movies have been made about his relativities?

M: That's what I'm talking about. Stop writing this paper. You're destroying the economy.

A: It's the creative destruction concept in economics.[5] No harm done. A phoenix in Greek mythology.[6] Burn in ashes only to be reborn again. Rejuvenation. How about the resurrection of Mr. Jesus in three days?[7]

M: Why are you writing a research paper in a screenplay format anyways?

A: Because otherwise, it'd be too boring to write, even more boring to read. I wanna be happy. I wanna make people happy. I have a performer's background, so.

---

[5] See https://en.wikipedia.org/wiki/Creative_destruction .
[6] See https://en.wikipedia.org/wiki/Phoenix_%28mythology%29 .
[7] See https://en.wikipedia.org/wiki/Resurrection_of_Jesus .

M: Oh that joker, smoker, midnight talker?[8]

A: Well that's Steve Miller Band. I'm a huge fan, though.

M: So all this, is just some corny, over-the-top, a dirt cheap, dirty deeds done dirt cheap,[9] a dog-and-pony routine? Is science a joke to you?

A: Well. All I'm saying is, there should be some balance between work and play.

M: But you're playing before you work. You're supposed to play after work.

A: Whoops. But.

M: But what?

A: In this paper, we won't confine ourselves in physics. We'll as well do some metaphysics as well.

M: Meta…what?

A: Like, who doesn't like philosophy, huh? Why not some balance between letters and science?

M: Letters? You don't even know how to pronounce English words. You got a heavy, audible Asiatic accents. And you're very much so visibly an Asiatic man. You're an Asian. Ha ha.

M: Oh come on, Mr. Moose. Please stop being such a racist. You ain't even a human being.

A: Then stop eating tasty animals!

M: Well. My breakfast is strictly vegetarian. I eat tofu, beans, veggies, etc. I eat healthy. And I love rhapsody.[10]

//xD

2. Comparison of Special and General Relativity theories by Mr. Einstein

Ok folks, let's do science. So, one way to look at Einsteinian Special Relativity theory is that it's a religion that worships light, and treats Light as an absolute deity. Mr. Einstein assumes

[8] See https://www.azlyrics.com/lyrics/stevemillerband/thejoker.html .
[9] See https://www.azlyrics.com/lyrics/acdc/dirtydeedsdonedirtcheap.html .
[10] See https://www.merriam-webster.com/dictionary/rhapsody ; https://en.wikipedia.org/wiki/Hungarian_Rhapsodies ; https://www.youtube.com/watch?v=eFHdRkeEnpM . A whole a lot of rhapsody melodies in the world. By Liszt, By Gershwin. Good stuffs. Very free-spirited. Very truly inspirational for sure. //:-D

that the speed of light is the universally absolute maximum speed, like no one is allowed to be faster than speed of light, because light is "the" god, the highest and the mightiest. By the same token, Mr. Einstein says light is a god of equality and no matter how fast or slow an observer is, the relative speed of light should stay the same, because Light is the god of egalitarianism.

Anyhow, Einsteinian Special Relativity theory[11] is about constant velocity, i.e., inertia or inertial state of affair, like same speed or no speed at all.[12] Then, Einsteinian General Relativity theory[13] is about acceleration.[14] Then in this religion of General Relativity, who is the new god?

…

…

…

…

…

How about gravitation? In Special Relativity, the absolute god of the universe was light. The speed of high and mighty Light god is so absolute, even the time and the space has to slow down and shrink before the presence of the Light god. In the religion of General Relativity, Mr. Einstein, the high and mighty chief priest, came up with an even superior god: the gravity. Even the former god of the universe, the Light god, has to give way to the Gravity god. Einsteinian relativity theories can be thought as a form of pantheism,[15] if not a box of pandora.[16]

As mentioned in the previous paper on disproof of Special Relativity, the religion of Christianity is very fond of light. In Old Testament, God said, "Let there be light." In New Testament, Mr. Jesus said, "You are the light of the world." Light was the very first thing that God created according to Bible. How about gravitation? What's Bible's take on gravity?

---

[11] See https://en.wikipedia.org/wiki/Special_relativity .
[12] See https://en.wikipedia.org/wiki/Inertia .
[13] See https://en.wikipedia.org/wiki/General_relativity .
[14] See https://en.wikipedia.org/wiki/Acceleration .
[15] See https://en.wikipedia.org/wiki/Panentheism .
[16] See https://en.wikipedia.org/wiki/Pandora%27s_box .

Well, in Eastern tradition, dualism is frequently adopted. Heaven and earth, day and night, men and women, king and servant, parent and child, employer and employee. Such is the "tao"[17] of yin and yang in Asian philosophy.[18]

In Western tradition, gods live in heaven, humans on earth, and there is hell, or hades, or the "under-world".[19] So, it is fair to say that gravitation has some negative connotation, at least in the Western culture. Like, the down-pulling temptation of Satan, the evil one, to "detract" someone "downwards."

So. A "black hole" bending the light, even absorbing it, that may have sounded obscene to some people. Does a black hole exist? Well, the country that this author lives in is America, which constitutionally guarantees the freedom of religion. Science, isn't that much different from religion. If there are two conflicting science theories, it is up to the People which one to choose. After all, it's a free world.

//!-)

M: Wait, wait a minute. You just characterized Einsteinism, a true science, as a religion. I call that a blaspheme. An unholy sacrilege.

A: Well. What you said belies, betrays your proposition that Einsteinism is a science. I said Einsteinism is a religion and you said I just committed a blaspheme, like, I insulted your god. What does that say about your "science"?

M: Hmm. I'd have to think about that.

A: Oh good ole you, Alaskan residential neighborhood Mr. Moose. I didn't realize you ever think.

M: Oh, why yes, I do. From time to time.

A: Okay. When you do think, what do you think about?

M: Oh. I think about what premises I would trespass and what tree branches I would munch on.

A: Ahh. That's some good Alaskan Moosian thinking!

M: lol thank you //:-)

A: I love it when an Alaskan moose smiles. Wait, hold on. Gotta take a cellphone picture of you and I'll put it in social media. A moose smiling photograph.

---

[17] See https://en.wikipedia.org/wiki/Taoism .
[18] See https://en.wikipedia.org/wiki/Yin_and_yang .
[19] See https://en.wikipedia.org/wiki/Hades .

//xD

3. Motivation of Einsteinian Proposition

Mr. Eistein started his General Relativity theory by assuming that an observer in a space rocket will not able to distinguish between inertial force of an accelerating rocket and gravitational force of equal magnitude exerted on a static rocket. That much is true. But Mr. Einstein made an illogical leap in the next step. Which one is that?

…

…

…

…

…

Well, Mr. Einstein's next step, a mistaken one as some of us argue is that the fact that the observer can't notice the difference means the two forces, inertial force and gravitational force, are equivalent.[20] To Mr. Einstein, such proposition, an assumption that inertial force and gravitational force are equivalent, should be promoted as an axiom, a self-evidently true statement that does not require a separate proof. But at least this author argues that there is no rhyme or reason whatsoever to assume such equivalence between inertial force and gravitational force.

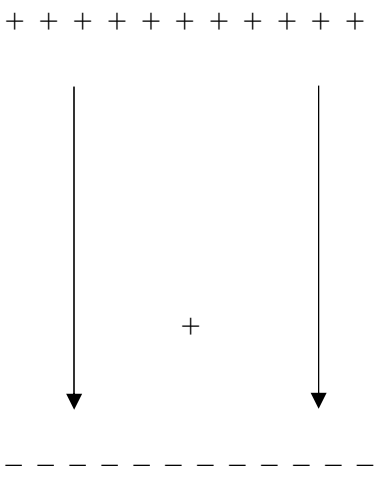
So what is inertial force? An easy illustration is as follows. If you recall when you're in an airplane in the airport gangway just about to take off the land and fly to the air, the airplane

[20] See https://en.wikipedia.org/wiki/Equivalence_principle .

accelerates, humongously, and your body pulls back due to inertia. That's what we call in this paper, inertial force, the kind of force that push you back in the direction opposite to the direction of acceleration. We'll get back to this inertial force concept later on, because it's important //:-)

4. Comparisons between Other Forces and Gravitational Force

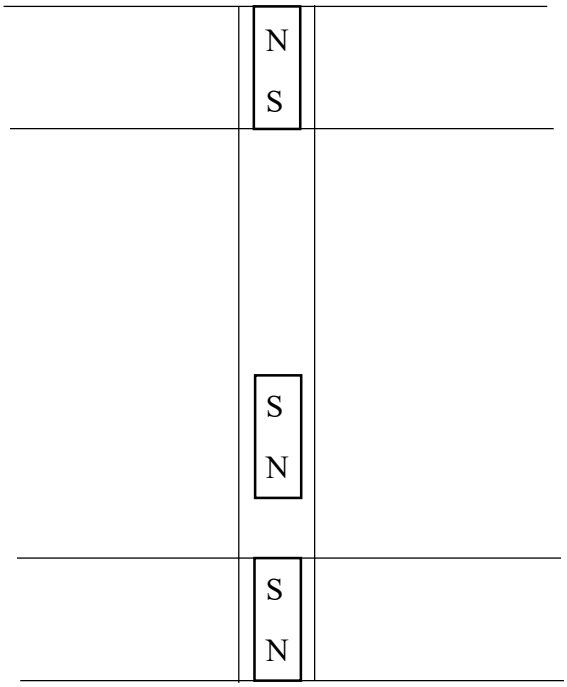
Now, imagine that you are in the space in a spaceship, far away from any planets or stars. Then, we can ignore the effect of gravitational force as gravity is a very weak, small force in nature, compared to electric force or magnetic force, etc.[21] So you are in a space ship and you are conducting a physics experiment with your colleagues. Your colleague didn't tell you and you don't know the fact that your spacesuit is positively charged. The bottom of the spaceship is negatively charged and the top of the spaceship is positively charged. Then in your spaceship, there is this uniform electric field:



In this scenario, your body will fill the force that pushes you toward the bottom of the space ship. Will you be able to tell the difference between this electric force and gravitational force, or inertial force? Not, unless you know the fact that your spacesuit has non-zero net charge and so do the bottom and top of the space ship.

The same holds true when the force field is a magnetic one. Consider the following:

[21] See https://nineplanets.org/gravitational-force/ .



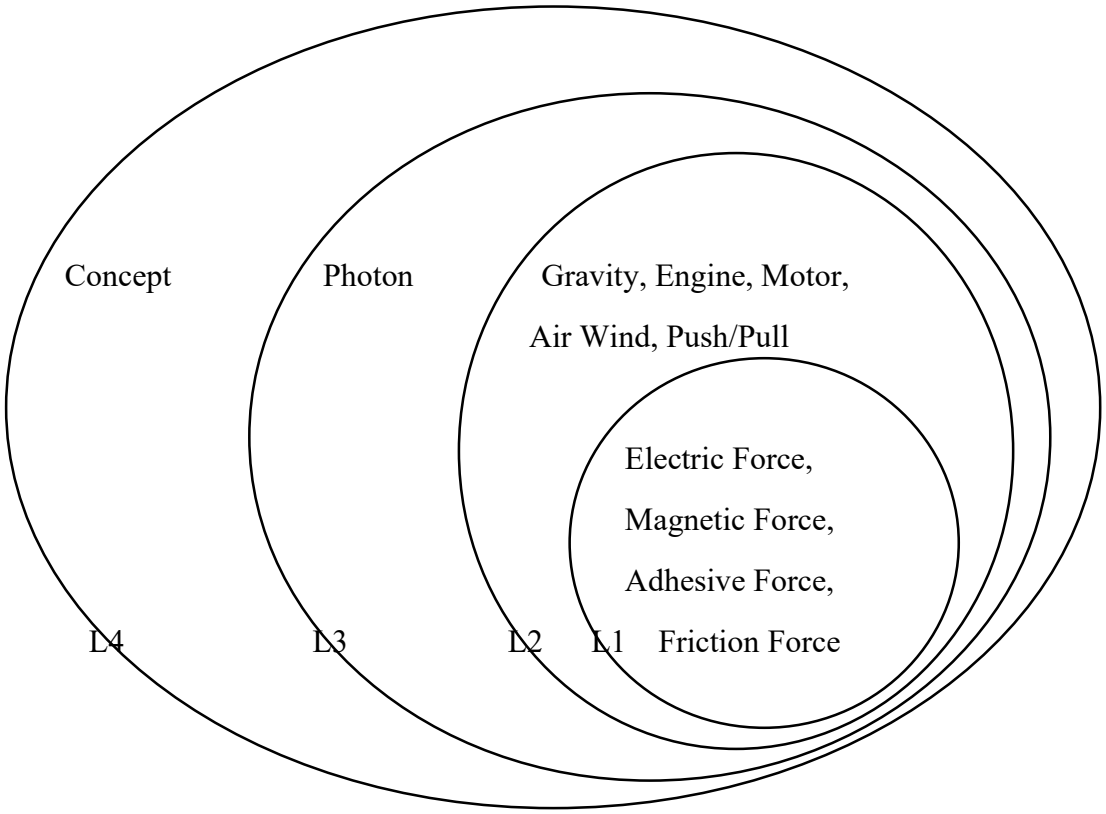
You are in a different space ship now. Now, unbeknownst to you, you are wearing a spacesuit whose upper part is magnetized with south pole of a magnet, and the lower half with north pole of the magnet. And you are situated inside a glass tunnel in the spaceship. You will feel the force pulling you towards the bottom of the ship but you don't know whether it is magnetic force, inertial force, electric force, gravitational force. The only thing you'll experience is some kind of force is exerting a power over you so that your body accelerates toward the bottom of the ship. And no worries, the floor of the ship is well cushioned so that you will be safe and sound //:-)

Now. Perhaps such presumed equivalence of all natural forces was what Mr. Einstein tried to theorize in his later years in so-called, the "Unified Field" theory.[22] But he failed. By now or soon at the end of this paper, ladies and gentlemen, we will know why. Why? In short, it just doesn't work //xD. Why? It is because, not all forces are equivalent to each other. Some are, some ain't. Then how exactly does it work? Well, we'll go for it in the next chapter. This author has a full-time job and he can only write so much per day, as one of his extracurricular activities //!-)

[22] See https://en.wikipedia.org/wiki/Unified_field_theory .

II. Hierarchy between Forces

We will model the world of forces using the set theory in mathematics.[23] There are four sets of forces: level 1 set, level 2 set, level 3 set, and level 4 set. A member of a set is a force.



1. Echelon One: Electric and Magnetic Forces

Forces that belong to the level one set are the kind of forces that apply to an entity that has specific property other than having a mass. For instance, for a scotch tape to exert adhesive force against gravity, the object should have a dry and firm surface. A scotch tape will not be able to stick to and lift up a piece of cake with sugar powder on top, or a wet ice cube.

[23] See https://en.wikipedia.org/wiki/Set_theory .

For electric force to take a dominion over an object, the object must have a net non-zero electric charge.[24] For magnetic force to have influence on an object, the object must be magnetic, like a piece of iron or a magnet. Otherwise, objects like glass or wood is not affected by electric force or magnetic force.

2. Echelon Two: Gravity, Air Wind, Engine, etc.

The level two forces govern over entities that have masses. Level 2 set is a superset of level 1 set. Imagine a runaway electron in the air. If the wind blows toward the east, will the electron get pushed toward the east? Yes. Why? It is because air wind force is generated by air molecules moving in a uniform direction and because electron has a mass,[25] though very tiny, and moving air molecules will hit and push the electron like billiard balls on a pull table. By the same token, is a magnet subject to gravity? Why yes, because a magnet has a mass and gravitational force applies to any object with a mass.

3. Echelon Three: Inertial Force, i.e., Ether Wind Force

This section is a critical one in this paper, so we will have to have subsections.

a. Ether Wind, Redefined

In this paper, we will redefine what ether is. Traditionally, ether in physics was defined as an imaginary medium that propagates electromagnetic wave in vacuum.[26] The famed Michelson-Morley experiment was designed to measure "ether wind" of the planet earth, rotating around the sun with a constant speed.[27]

In this paper, we will have a different definition of ether wind. Like a while ago, recall yourself being in an airplane when it is about to take off the ground. You feel the strong forward acceleration and your body start to pull backward, as if a strong wind if blowing towards you. By this analogy, we will call that inertial force, an ether wind force.

[24] See https://en.wikipedia.org/wiki/Electric_charge .
[25] See https://en.wikipedia.org/wiki/Electron .
[26] See https://en.wikipedia.org/wiki/Luminiferous_aether .
[27] See https://en.wikipedia.org/wiki/Michelson–Morley_experiment .

Now, imagine yourself being in a space ship and your space ship ran out of air in the cabin due to air leak and so you are wearing a space suit and the cabin is devoid of any kind of air. So you start the engine and hurry back to the earth and when your ship accelerates, your body will pull back and this force that pushes you back, we will call it ether wind force, or inertial force, or accelerative force.

If your ship is accelerating forward, it feels as if the rest of the universe is accelerating backward, causing the ether wind coming toward you. Ether wind force is an imaginary concept that captures this situation. In mathematics, they have what's called, imaginary number, *i*. The definition of *i* is:

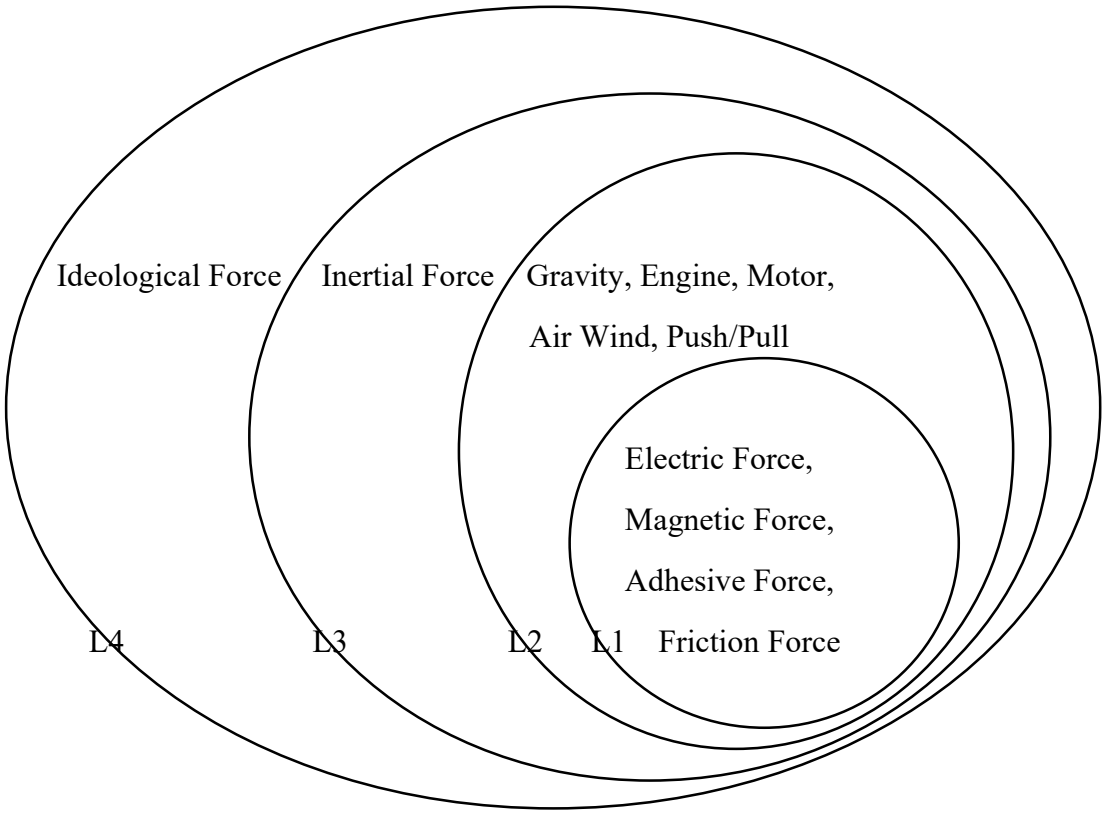
$$i^2 = -1$$

Well, more precisely, *i* is defined as a positive square root of -1.[28] It is a number that doesn't physically exist, but if we define such number metaphysically, it becomes a useful tool for us. Likewise, although ether wind force doesn't physically exist, it is a useful concept if we define it properly.

b. Exclusive Citizenship of a Kingdom

This subsection is also a highly critical one but we will refrain from dividing it into sub-subsections. Now, we need to step back and go back to the Venn diagram above. For convenience' sake, let us take advantage of our digital technology and copy and paste the whole thang:

[28] See https://en.wikipedia.org/wiki/Imaginary_number .



Now, think of a piece of wood. It is subject to friction force because it can be nailed into the wall with an iron nail and it will hang there high on the wall, against gravity. So that piece of wood will belong to L1 set, and it would be a citizen of the first kingdom. But because the second kingdom, L2 is a superset of L1, the wood also belongs to L2, as well as L3, and L4.

What if a bunch of electrons are scotch-taped onto that wood? Then it will belong to the kingdom of electric force as well, as it will be dominated by a level-1 king, electric force. The piece of wood will be a dual citizen between friction force kingdom and electric force kingdom. But it will not belong to the level 2 kingdom, because it is subject to at least one level 1 kingdom.

Then what would be an entity that belongs exclusively to level 2 set and not to any of the level 1 sets?

…

…

…

…

…

How about a wet diamond, assuming it's impossible to put a nail in it? The wet diamond will be an exclusive member of the level 2 set, because none of the forces belonging to the level 1 set has any hegemony or control over the wet diamond. But the only citizenship or membership requirement of the level 2 set is that the entity has a mass. A wet diamond has it, and thus it is welcomed in the level 2 kingdom.

Well, by exclusive citizenship to a kingdom, we mean that the citizen belongs to one echelon but to none of the echelons below that echelon. Of course, that citizen also belongs to upper echelons, if any.[29]

Now, let's talk about the level 3 kingdom and this is the highlight of this paper.

c. The Third Kingdom

Let us start by reviewing the two previous levels' sets. The citizens that belong to 1evel 1 set are the kind of objects that get controlled by the level 1 kings, or the forces that belong to level 1. The citizens that belong to level 1 and no other higher levels, they're the exclusive citizens of level 1. And the level 1 kingdoms have specific requirements. To be a resident of the electric kingdom, the object must have a non-zero net electric charge. To be a resident of the magnetic kingdom, the object must be magnetic. To be a resident of the adhesive kingdom where adhesive force is the king,[30] the object must have a dry, clean surface.

The kingdoms that belong to the second echelon have a more lenient citizenship requirement. Any level 2 forces, i.e., the kings who exert powers over their citizens, only require that an object has a mass. In this sense, all the level 2 force sets, whose members are objects that get affected by the forces of the sets, are all identical sets. The exclusive members of level 2 sets are objects that do not belong to any of the level 1 sets. That is, they are objects that are electrically and magnetically neutral, that are wet and smooth on the surface, or too brittle to stick a nail into it, like a really soft piece of cake, so that friction force cannot have any effect with a nail-in then lifting it. The examples here are rather sloppy but you got the idea //:-)

The third kingdom, which is the main topic of this subsection, is a rather new but not too new a concept of force. An example, if not the only one there is, of a level 3 force is the inertial force, i.e., ether wind force, the imaginary force that occurs whenever acceleration happens.

---

[29] See https://www.thesaurus.com/browse/echelon?s=t . Here we use the word, echelon, because it sounds cool //!-)

[30] See https://en.wikipedia.org/wiki/Adhesion . Of course, frictional force or adhesive force is not elementary forces in nature, but for our discussion, they do serve good illustrative purpose.

d. Einsteinian Elevator Thought Experiment[31]

Let us start this subsection by acknowledging that Mr. Einstein did indeed contribute to physics by asking the right questions. He answered them wrong, but where he failed, we shall prevail. Now, let us pay a visit to Mr. Einstein's elevator. Well, we don't want anyone to be hurt even in a thought experiment, so we shall redesign the thought experiment.

Let's say, a man goes to a Bungee jumping place.[32] He's an experimental physicist, so he falls right side up, with a weighing scale scotch-taped beneath his feet. As he safely falls, his weighing scale will read zero, because there is nothing beneath the weighing scale except for air and we'll ignore the effect from the resistance of the air. In this picture, the weighing scale is falling at the same acceleration as the man, so the scale will read zero weight. Does that mean the man feels nothing, as if he's out there in the space in a spaceship, away from all heavy planets or stars, and when the spaceship is not accelerating?

…

…

…

…

…

The author does not know what Mr. Einstein had said about this, because this author did not study Mr. Einstein's theory in too much detail. Now, let us focus on our answer to the question.

[31] See https://en.wikipedia.org/wiki/Einstein%27s_thought_experiments#Falling_painters_and_accelerating_elevators .
[32] See https://en.wikipedia.org/wiki/Bungee_jumping .

Assume that the Bungee man also had an accelerometer[33] attached to his belt by a cord and he reads it as he safely falls. What will be the reading of the accelerometer?

…

…

…

Of course, 9.8 m/s^2. How about the man? Of course he will feel it coming in the air that day[34] and it will be the air hitting his face. If he closes his eyes, he will feel as if the wind particles are hitting his face with increasing wind speed.[35]

But what if his entire falling body is wrapped up in a big plastic bubble ball, to prevent the wind blowing. Will his body feel the acceleration of 9.8 m/s^2.

…

…

…

Yes, of course. The accelerometer that he has with him is nothing but a contraption that is dialed and adjusted to measure in MKS scale,[36] the same acceleration that his body feels. Our Bungee man will feel the same kind of ethereal wind like we all experience when the airplane goes full acceleration on the runway to take us to the sky.

---

[33] See https://en.wikipedia.org/wiki/Accelerometer .

[34] See https://www.azlyrics.com/lyrics/philcollins/intheairtonight.html . //!-D

[35] Of course, even if the man travels in a constant velocity with an open-top convertible car, he will experience air molecules hitting his face, even when there is no wind that day at all. It's because his traveling east and air standing still is equivalent to his standing still and air blowing west. See https://vixra.org/abs/2009.0211 .

[36] See https://en.wikipedia.org/wiki/MKS_system_of_units .

e. The Reason for Partial Equivalence between Forces

Alright, folks. What we have is partial, not total, equivalence between forces. Let's say, you are in a chamber. The chamber has air, and a chair. You are safely seat-belted on a comfy chair with plenty of cushioning thereon. Now, your chamber is accelerating. It may be a spaceship free-falling back to planet earth, with of course a nice parachute built into the spaceship. Or your chamber is in a physics experiment laboratory and it is magnetic and the lab has a uniform magnetic field so that your chamber accelerates. Your chamber may have a net electric charge and your lab just turned on a huge capacitor to generate a uniform electric field so that your chamber accelerates. Or your spaceship may be accelerating with its jet engine in the middle of the outer space away from heavy chattels like planets or stars.

In all those scenarios, no matter what force is accelerating your chamber, yes, you will feel the same kind of accelerative force, i.e., inertial force, a.k.a., ethereal wind force, that pushes your body back toward the chair's back support, because your chamber is accelerating forward. That much is true, that much is equivalent. Why is this the case?

…

…

…

…

…

It is because, all those forces belong to level 1 or level 2, which is a subset of level 3 force. And this one level 3 force, ladies and gentlemen, is the acceleration force, i.e., the inertial force, a.k.a., the ether wind force.

Mr. Einstein may have mastered algebra, calculus and even tensor calculus, but a possibility is that he was rather unfamiliar with the set theory or formal logic in mathematics. Where he erred is that he did not realize the subset/superset relationships between forces.

f. The Level 3 Force Set

So. One of many things that we have been observing so far in our set-theoretical model of force hierarchy is as follows. The higher level we get, the force kingdom becomes more inclusive. That is, the citizenship requirement in higher kingdoms are less stringent than lower kingdoms. This concept is natural in set theory: a superset includes and encompasses all the members of its subsets. Like, an animal kingdom includes dogs and cats and apes, where canine genus only includes only dogs and exclude cats and apes, because animal kingdom is a superset of all its lower genus'.[37]

Then, what would be the criterion for an entity to be a citizen of the third kingdom? Next question: who is the exclusive citizen of the third kingdom that does not belong to lower, level 2 or level 1 kingdoms?

…

…

…

…

…

Ladies and gentlemen, at last. That one citizen of the third kingdom, is light. Light has both particle property and wave property.[38] Now, the answer for the next question. What would be the one and only requirement to be a citizen of the kingdom governed by the king, the force of inertia?

…

[37] See https://en.wikipedia.org/wiki/Order_(biology) .
[38] See https://en.wikipedia.org/wiki/Light .

…

…

…

…

The answer is existence in space. If an entity has a physical existence in space, occupying a certain length or width or height, then that entity is qualified to be a citizen of the third kingdom. Does the light have such things? Yes. We call it photon, but light does not have a spherical radius like an atom or electron does. What light has is wave length and amplitude, which are finite in space.

Then can you think of an entity that exists but does not occupy a physical space?

…

…

…

…

…

This is where we should start a brand-new subsection. It is because where we are at, the line we are about to cross over, is the borderline between physics and metaphysics, the one between science and philosophy.

g. The Fourth Kingdom and Its Exclusive Citizenry

Well, the fourth kingdom, all we are going to say in this subsection is that the exclusive citizens are concepts and the king of the kingdom is ideological force. We just crossed over the boundary between physics and metaphysics.[39] The subject matter here will be a whole new chapter, which we shall get to later in this paper. It's time to celebrate. Let us take a break.

//:-D

III. **Interlude**

Let us invite Mr. Einstein and have a conversation with him. It's not a thought experiment, but it's a fiction, short story, a screenplay. Ladies and gentleman, it is a great privilege to introduce to you, the great Mr. Albert Einstein-

E: … wha what is this? Where am I? And who are you?

A: Greetings, Mr. Einstein- Thank you for your time with us today, Sir.

E: Oh, it's you again. The Asian guy. The man who claims to have disproven my Special and General Relativity theories. Well, I got a news for you. You FAILED! On both ventures. Obviously you got nothing better to do in life. Am I correct?

A: lol. Just doing my job, Sir.

E: Your job? Well, hell man. It's nobody's job to disprove my proven theories. It's nobody's job. So yeah. You're right. It is your job alright, because you're nobody. Am I right?

A: Sure you do, sure you do.

E: By the way, I've read what you've been writing so far.

A: Oh thank you, Mr. Einstein, what a great honor, Sir.

E: I have a question for you.

[39] See https://en.wikipedia.org/wiki/Jordan_River#Hebrew_Bible .

A: Yes Sir, I got an answer for you.

E: Why on gracious earth did you name that subsection, wha what, "The Third Kingdom"? Hmm? Did you try to tell me, "The Third Reich"?[40] You must be a neo-nazi. You are antisemitic. That's why you're coming after my theories, right? Just because what, I'm Jewish?

A: No Sir. My objection to your theories has absolutely nothing to do with your ethnic heritage.

E: I don't buy it. What do you think of Hitler?[41]

A: Well, Holocaust[42] was a great tragedy and yes, it was a big mistake on Mr. Hitler's part.

E: Wha wha, did you just say "Mr. Hitler"? What the…

A: Well Mr. Einstein, Mr. Jesus said, "Judge ye not, lest ye be judged."[43]

E: Wow. You are some…. thang. I don't know what it is, but you are some big, gigantic…. like… a humongous ideological monster. Wow. You surprise me, Asian man.

A: Oh well.

E: What do you think about neo-Nazism then?

A: Well, I don't think it exists. People who say they're neo-Nazists, I think they're just playing pranks, making jokes about Jews. I don't think they're a threat to society. I don't think there exist people with criminal antisemitism these days, anywhere on earth.

E: But you hate Jews.

A: No Sir. I love Jews. I love European Jews, I love American Jews. I might add, I love apple juice and oh I love orange juice too.

E: See? You Are Antisemitic.

A: Well, I deny the charge, Sir. I'm a huge fan of bible. And it's written by Jews. Even the great Mr. Jesus was a Jew. I'm a huge admirer of Mr. Jesus. Who is antisemitic now?

E: But you hate me.

A: No Sir. I do not hate you. But, I don't admire you, but it has nothing to do with you being a Jew.

E: Ok ok ok. Who else do you hate? Are there any other Jews that what, you "refuse to admire" for the reasons other than their being Jewish?

A: Glad you asked the question, Mr. Einstein. I'll tell you.

---

[40] See https://en.wikipedia.org/wiki/The_Rise_and_Fall_of_the_Third_Reich .
[41] See https://en.wikipedia.org/wiki/Adolf_Hitler .
[42] See https://en.wikipedia.org/wiki/The_Holocaust .
[43] See https://www.kingjamesbibleonline.org/Matthew-7-1/ .

E: Yeah. Go ahead. Tell me. Tell the whole wide world how antisemitic you are.

A: Again, I'm not antisemitic. I admire Jewish orthodox people. I think they're awesome.

E: Stop dodging the question.

A: Only if you stop accusing me of antisemitism, Mr. Einstein.

E: Ok. What other Jews do you refuse to admire?

A: Well, two other European Jews come to my mind. Dr. Sigmund Freud[44] and Mr. Karl Marx.[45] And You, Mr. Einstein. The three of you are the most famous, the most celebrated European Jews in the modern history at the turn of the century. I do not agree with any three of you, gentlemen, but I do acknowledge your contributions to humanity for asking the right questions. But none of you produced the right answers. We're gonna correct your errors. This paper is about correcting your errors, Mr. Einstein. As for correction of Dr. Freud's and Mr. Marx' errors, it will be some other time, in some papers that I may write in the future.

E: Write all you want, man. Your papers will be unread, buried, and forgotten. So will you. One fine day, you will find yourself dying alone, unrecognized, unread, and then you die, and get buried six feet under. So will your lifetime's worth of works. "The" junk science. That's what this is. Am I right?

A: … Mr. Einstein, I didn't know you have some dark humor.[46]

E: Well it's no secret that I turned to the dark side later in my career.[47]

A: Ahh… so you admit it then.

E: Well, I dunno. When I did special relativity thingy, I dealt with light all the time. Too goody-goody in my taste. So I did the opposite in general relativity. A blackhole engulfing the light. How cool is that? But no, I got nothing to do with dark matter though. That's some other cosmologists. Not me.

A: So you didn't do dark matter. What do you think about "Black Lives Matter"?

E: Oh I support it of course. But I'm a Jew. I'd rather say Jewish lives matter instead.

A: I see.

E: Do you think Asian lives matter?

A: I think so.

E: You think so, huh? … Ah ha, ah ha, ah ha ha ha ha ha!

---

[44] See https://en.wikipedia.org/wiki/Sigmund_Freud .
[45] See https://en.wikipedia.org/wiki/Karl_Marx .
[46] See https://en.wikipedia.org/wiki/Black_comedy .
[47] See https://starwars.fandom.com/wiki/Dark_side_of_the_Force .

A: What's so funny, Mr. Einstein?

E: Oh. Nuthin.

A: Hmm… You ain't the real, "the" Mr. Einstein, are you?

E: What are you talking about?

A: I don't think you are who you say you are…

E: I am a male, and yes, my name is Mr. Albert Einstein. Come on, man.

A: What I'm saying is, you're not exactly a human being.

E: Are you kidding me? Of course I'm not. Who said I ever was?

A: Whoops.

E: Yeah, whoopsie dopsie pepsie you. Lemme guess. You're drinking and writing again, son?

A: lol.

E: I am not a human being. I'm a feline. My previous owner named me Mr. Einstein because my whiskers resemble the Homo sapiens Mr. Einstein's mustache or something. My previous owner didn't feed me well, so I got away.

A: Stray cat?

E: A runaway cat, rather.

A: Well. Still. It's great to chat with you, Mr. Einstein //:-)

E: You keep writing. Maybe it's worth something.

A: Oh thank you. Mighty kind of you, Mr. Einstein.

E: You bet. I'm outtie-

A: Goodbye, Mr. Einstein.

//xD

IV. The Metaphysics of the Fourth Kingdom

Well, this is mainly a physics paper, not a philosophy one, so we'll briefly touch base on the big picture and postpone the detailed discussion for a philosophy paper that will be written in the future.

1. An Analogy of an Apple

When I was in high school in Seoul, South Korea, our teacher in western history told us, "There are three historic apples in western history. Adam's apple,[48] William Tell's apple,[49] and Issac Newton's apple.[50]"

Let's pretend that we're being metaphysical descendants of Abraham, continuing the heritage and lineage of true physicists like Archimedes, Copernicus, Galilei, and Sir Newton. Mr. Einstein never talked about an apple, so we take that as an evidence that he's not legit //xD

Ok. So. An apple, you can visualize it in your head based on the memory of its visual appearance, olfactory fragrance, palatal taste, tactile texture, even the sound of biting and swallow the fantastic fruit.

Now, let's think like metaphysicists.[51] The concept of an apple, does it depend on its physical existence?

…

..

.

Not. Well, before that, let's step back and ask ourselves. The physical existence of an apple, does it depend on the existence of a perceiver?[52] Not. Right? An apple can exist even if there is

[48] See https://en.wikipedia.org/wiki/Adam%27s_apple#Society_and_culture .
[49] See https://en.wikipedia.org/wiki/William_Tell .
[50] See https://en.wikipedia.org/wiki/Isaac_Newton#Apple_incident .
[51] See https://en.wikipedia.org/wiki/Metaphysics .
[52] See https://en.wikipedia.org/wiki/Existentialism .

no animal or Homo sapiens to appreciate its pretty delicious awesome existence in space. The existence of an apple does not depend upon the existence of a perceiver thereof.

Now, let us take one step further into the depth of our metaphysical universe. The concept of an apple, does it depend upon "a" physical existence of an apple? In other words, is it necessary for an apple to physically exist, for the concept of apples to exist?

…..

….

…

..

.

Not really. Think of dinosaurs. They don't physically exist no more as they're extinct. But the concept of them persist still in movies or children's books and toys. A concept is a metaphysical entity and its metaphysical existence does not necessitate its physical existence. In this sense, metaphysics occupies a higher echelon than physics in the hierarchy of things.[53]

2. Metaphysics of Force[54]

Now, how can we metaphysically define what force is?

[53] See https://en.wikipedia.org/wiki/Theory_of_everything . Though many a person tried this, they quite haven't got there. We will. It will take more than a couple of research papers but we will get there in time. Where they failed, we shall prevail //!-D

[54] See https://starwars.fandom.com/wiki/May_the_Force_be_with_you .

.

..

…

Well, Mr. Sir Newton defined physical force like so:[55]

$$F = ma$$

But that's definition of force in physics. But that helps. Physically speaking, force is something that changes an object's state, its velocity, but that object must have a mass.

We have discovered that a photon, which has no mass, thus which is not subject to gravitation, is still subject to accelerative force, i.e., inertial force, a.k.a., ethereal wind force. How about a concept? Is a concept of an apple subject to accelerating movement of a spaceship?

Not. A physical apple does get pushed back in an accelerating car and it may help you digest better perhaps. But the concept of apples is metaphysical and it is not subject to any physical force in the universe.

Then, our next natural question would be, can we think of a force that can change the state of the concept of an apple? What kind of force can possibly change the definition of what an apple is?

.

..

[55] See https://en.wikipedia.org/wiki/Newton%27s_laws_of_motion .

…

When this author was majoring in computer science in American Midwest in early 2000s,[56] he took a 5-credit biology class. The professor said, "they talk about GMO, genetically modified organism. But genetical modification isn't always artificial. In nature, we call such process, evolution.[57]"

In evolutionary biology, there are two kinds of selection: natural selection and artificial selection. Natural selection is known as evolution. Artificial selection is also known as selective breeding in farming, in agriculture.[58]

So why yes, the tote bag full of apples we see in grocery stores, they're not the same kind of apples that existed 5,000 years ago. Apples go through slow natural selection and fast artificial selection, and the definition or the concept, or the 'image' of an apple do change over time.

3. The Exclusive Citizen of the Fourth Kingdom: Concept

So in our set-theoretical model of force hierarchy, a set is a kingdom with a king (a force) that reigns over citizens (entities subject to the force of the set). In the fourth echelon, there is this one king that can sway its citizenry, concepts. Then, who is this king? What's his[59] name?

.

..

…

[56] See https://www.wisc.edu/ .
[57] See https://en.wikipedia.org/wiki/Evolution .
[58] See https://en.wikipedia.org/wiki/Selective_breeding .
[59] Please note that the author is a male and that is why he uses male pronouns, because it's easier for him. The author is not a sexist or misogynist //!-) The author will not use expressions like "he or she," "him or her," "his or her," "himself or herself," etc., because such gender neutral expression is too bulky, cumbersome, tedious, inefficient, unnecessary, and unattractive. So in this paper, a male pronoun is used to denote a generic person, like back in the good ole days. The author is a male and that's why it is easier for him to use male pronouns from a male perspective of things. If an author is a female and if she exclusively uses female pronouns, this author would understand and raise no objections. //:-)

How about ideological force? I mean, hasn't the definition of marriage changed over the past decade or so, at least for some left-leaning folks in the western hemisphere?[60] So yeah, an ideological wind force, it changes people around, and it goes far beyond that. An ideological force can even change a concept, changing its definition.

Look at the ideology of Einsteinism. It redefined what relativity means, to some people. Now we are here, to re-re-define, to restore rather,[61] the long-lost concept of relativity, in its truest sense. Ladies and gentlemen, we are witnessing a history in the making.

Alright folks, enough with dancing with metaphysics. We shall do more metaphysics in the future, in a philosophy research paper.

//!-)

V. Back to the Inertial Symmetry Axiom Theory[62]

1. An Intermediary Introduction

So the previous paper in physics was titled as such. A physics peer-reviewed journal rejected it, so this author put it in a kind and generous online database in the internet, so people can download the PDF version and read it, anywhere in the world, 24/7, in glorious yes, space and time, if they want //:-D

The previous paper was about disproof of Einsteinian Special Relativity, and this very paper is about disproof of Einsteinian General Relativity. Talk about some ambition //xD

…

Anyhow. In short, Einsteinian Special Relativity is about constant velocity, inertial frame of things; Einsteinian General Relativity is about acceleration, force, etc. We acknowledge that Mr. Einstein contributed to physics and beyond, for popularizing the concept of relativity, interrelationship between space and time, though experiment, etc. He asked the

[60] As of writing, today is 10/11/2020, 8:43pm, an autumnal Sunday evening in Alaska, USA, of all places.
[61] See https://en.wikipedia.org/wiki/Double_negative .
[62] See https://vixra.org/abs/2009.0211 . Also see https://en.wikipedia.org/wiki/Back_to_the_Future .

right set of questions. He, like anyone else, got hits and misses. He got it right in statistical study of Brownian Motion,[63] or photo-electric effect[64] that got him the prized Nobel prize. But unlike he hit it right twice, he missed it twice in Special and General Relativities. We are here to correct the wrong, to appreciate the correct. Capisce?

Let's talk about photo-electric effect. A photon hits a metal. A photon flies away, as in a pull table in a dive bar in Alaska, the billiard balls.[65] The photon's electromagnetic wave energy gets converted into an electron's kinetic energy.

Another interesting photon's behaviorism is known as piezo-electricity.[66] It's like, if you squeeze a metal, you can squeeze an electron out of it, just like you get a glass of lemonade from a squeezed lemon //xD

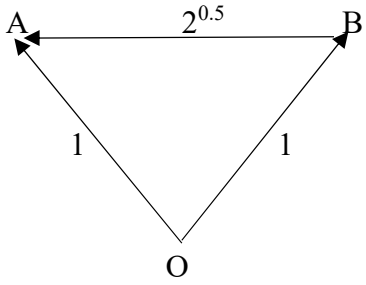
So yeah. Physics is a big field of study and Einsteinian Relativity is only a very small part of physics discipline in academia.

This author is busy. This is the second paper in physics and this author wants to wrap it up in physics and move on to the topic in economics, philosophy, linguistics, and so on.

In the last paper, 39 pages long one, this author forgot to say some important things in the subject matter of inertial symmetry. So, if kind and generous readers would allow, please allow me to slide in some inertial symmetry stuffs in here.

2. Equaivalence in Inertial Symmetry

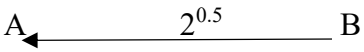
As a starter, let us devise a simple scenario with three people: Adam, Brian, and Mr. Obama. Not to disrespect our former President of America, we will borrow his last name to denote a static observer, traditionally labeled as O for Origin, or zero of a coordinate system.



[63] See https://en.wikipedia.org/wiki/Brownian_motion .
[64] See https://en.wikipedia.org/wiki/Photoelectric_effect .
[65] See https://www.dummies.com/education/science/physics/momentum-in-physics/ .
[66] See https://en.wikipedia.org/wiki/Piezoelectricity .

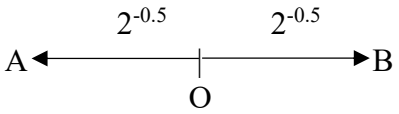
According to O, A is moving northwest at 1 m/s and B is moving northeast at 1 m/s. Assuming the angle between A and B's velocities are 90 degrees, A's velocity relative to B has the magnitude of square root[67] of 2, by Pythagorean theorem.[68]

But let's say, O is hiding or hidden from the view of A and B. Assume further that there is nothing in the universe except for A and B. A has a red light and B has a blue light in complete darkness in the universe. Then, the way B will perceive A's movement is that A is moving away from him at $2^{0.5}$ m/s, to his left. If B is a spherically symmetric object like a ball, then the situation becomes more direction-less: the only thing B will observe is that A is moving away from him, period. B will think he is not moving at all, because like anyone else, B is egocentric.[69]



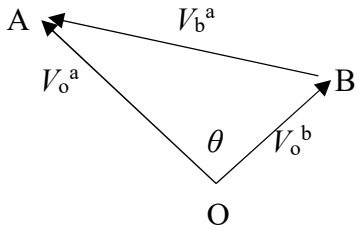
3. <u>The Law of Cosines Way</u>[70]

The configuration above where B is standing still and A is moving west at $2^{0.5}$ m/s is also equivalent to a situation like so:



In general, there are three variables: A's velocity, B's velocity, and the angle, θ, between the velocities of A and B:[71]

[67] See https://sciencing.com/the-basics-of-square-roots-examples-answers-13712463.html .
[68] See https://en.wikipedia.org/wiki/Pythagorean_theorem .
[69] See https://vixra.org/abs/2009.0211 .
[70] See https://en.wikipedia.org/wiki/Law_of_cosines .
[71] See https://en.wikipedia.org/wiki/Relative_velocity .



Basically, V_b^a means A's speed relative to B, and V_o^a means A's speed[72] according to O, and so on. The vector formula to calculate relative velocity vector is as follows:[73]

$$\boldsymbol{V}_b^a = \boldsymbol{V}_o^a - \boldsymbol{V}_o^b$$

For simplicity, let:

$$|\boldsymbol{V}_b^a| = V_b^a = C$$
$$|\boldsymbol{V}_o^a| = V_o^a = A$$
$$|\boldsymbol{V}_o^b| = V_o^b = B$$

Then the formula to calculate the speed scalar is as follows:

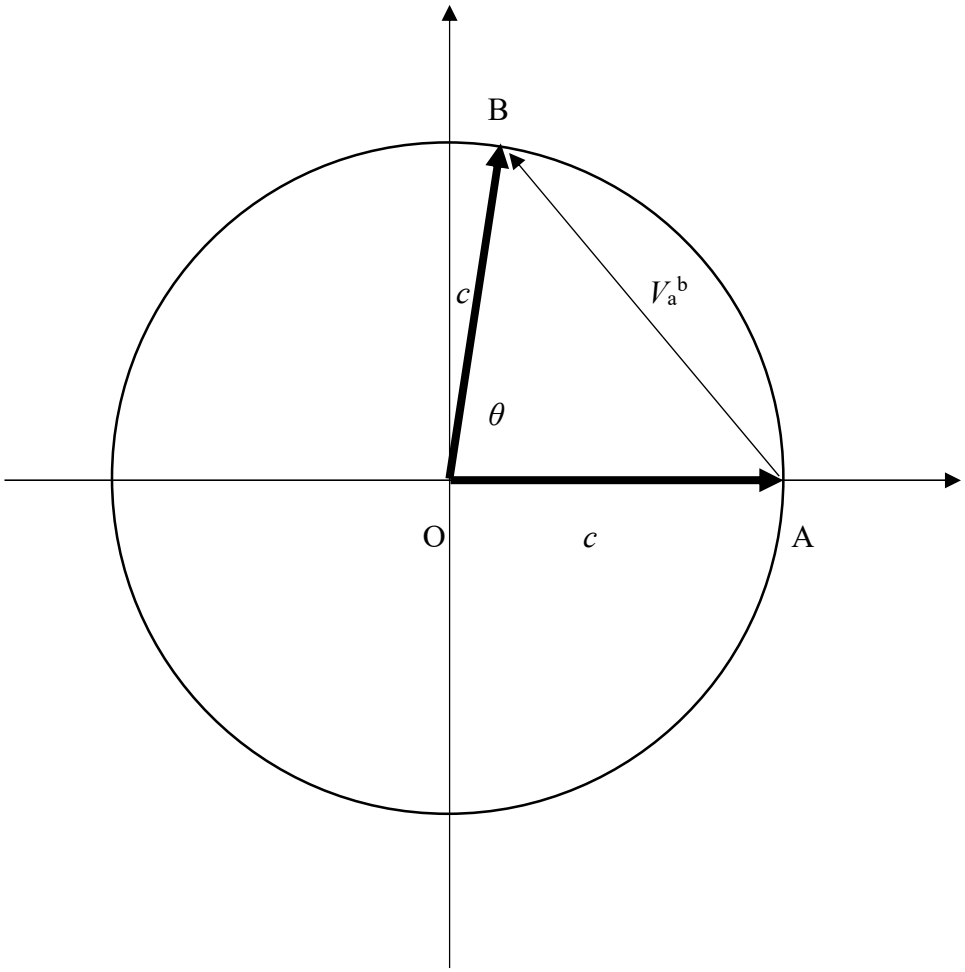
$$C = (A^2 + B^2 - 2\, A^2\, B^2 \cos\theta)^{0.5} .$$

In summary, if we fix the relative speed C, we can pick and choose combinations of A, B, and θ such that such choice of three values would always result in the same C. Such possibilities of choices are, of course, infinite.

[72] See https://www.physicsclassroom.com/class/1DKin/Lesson-1/Speed-and-Velocity .
[73] A vector (velocity) is denoted with bold font, while a scalar (speed) is denoted with regular font. See http://engineeronadisk.com/notes_mechanic/staticsb3.html .

4. Two Photons in Inertial Symmetry Regime

In this section, we will design and conduct thought experiments in inertial symmetry way. Let's start by drawing a 2-dimensional Cartesian coordinate.



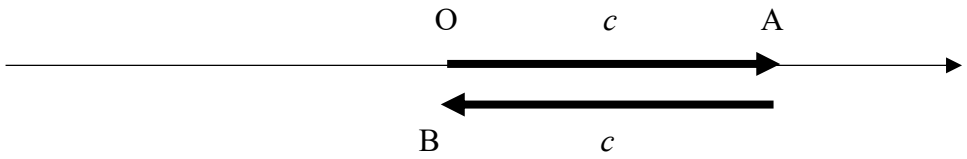
Let's say there are two photons A and B and a static observer O. A and B are traveling in light speed in vacuum, *c*, and according to O, the angle between A's and B's velocities is θ.

Then, by the way of the law of cosines,

$$V_a^b = (c^2 + c^2 - 2\, c^2 \cos\theta)^{0.5}$$
$$= 2^{0.5}\, c\, (1 - \cos\theta)^{0.5}$$

Our next thought experiment, we shall do it like a cartoon. Mr. Jesus said, "Be like children. Then and only then you can enter the Kingdom of Heaven."[74] One way to interpret the biblical verse is that we should be like children in order to enter the kingdom of true knowledge in physics.

Say, a photon is like a man, personifying the photon.[75] This photon A has a flashlight. And out of A's flashlight, the secondary photon B is coming out. A is traveling east, and A shoots the photon B to the west:



Then, to the eyes of the static observer O, the speed of the photon B is:

$$V_o^b = V_o^a - V_b^a = c - c = 0.$$

Ladies and gentlemen, we just created a standing-still photon! This photon B is not moving at all according to O. That is correct, a photon doesn't have to move at c. This is the true relativity.

The third thought experiment in this section is adding the third character, D for Daniel. Let's say, we add D in the picture above and D is walking west at 1 m/s, according to O. Then, according to A, the velocity of D is:[76]

$$\boldsymbol{V}_a^d = \boldsymbol{V}_o^d - \boldsymbol{V}_o^a = -1 - c = -(c + 1)$$

Then the speed of D according to A is:

$$V_a^d = |\boldsymbol{V}_a^d| = |-(c + 1)| = c + 1$$

[74] See https://www.biblica.com/bible/niv/matthew/18/ .
[75] See https://www.thesaurus.com/browse/personify?s=t .
[76] In one dimensional coordinate consisting of negative numbers, zero, and positive numbers, a scalar can also be a vector. It is because what's known as a scalar is in fact a one-dimensional vector, because a scalar can be a negative or a positive number, and such polarity creates directionality.

Ladies and gentlemen, we just created a man who can travel faster than light, and his speed is *c* plus 1 m/s.

5. An Afterthought after Thought Experiments

Inertial symmetry regime is egalitarian because there, we treat a photon like anything else. Inertial symmetry is also a liberating regime, because there, we are no longer confined in the Einsteinian prison where nobody's speed can't exceed the speed of light.

There is no such a thing as $E=mc^2$ or energy-mass equivalence. Anything and everything that came out of Einsteinian Special Relativity theory is false and must be rejected. Well, if one is to reach the true knowledge, in this author's opinion. But, this is a free world, so people can believe what they want. There is nothing wrong with having a religion. But, Einsteinism is a religion disguised as a science and such disguise is a falsehood, and that's why Einsteinism is a bad religion and it behooves us that it goes away.

Of course, we are not advocating book burning //xD What we are advocating is that Einsteinian Special Relativity and its progeny should be rejected in their entirety, because they are wrong and false, 100%.

Then doesn't Einsteinian Special Relativity have any redeeming value?

.

..

…

….

…..

Yes, it does. At least, Mr. Einstein's time dilation theory inspired generations of science fiction writers and filmmakers to imagine time travels[77] or time machines.[78] According to inertial symmetry theory, time does not slow down and space does not contract. I'm sorry, but

[77] See https://en.wikipedia.org/wiki/Back_to_the_Future .
[78] See https://en.wikipedia.org/wiki/The_Twilight_Zone .

there's no such a thing as time machine. But, it is an interesting concept and sci-fi writers should be encouraged to keep writing about it. //:-D

VI. Back to the Force Echelon Axiom Theory

1. A Re-introduction

The previous physics paper, "Inertial Symmetry Axiom Theory" was about replacing Einsteinian Special Relativity theory, if not disproving it. But, saying that it is an alternative theory is too weak a statement. The beginning error that Mr. Einstein committed was the assumption that the relative speed of light is constant no matter what speed the observer has. Because the entire Special Relativity is based on that one faulty assumption, the entire Special Relativity is wrong. E.g., there is no such a thing as $E=mc^2$ or energy-mass equivalence. They're all wrong.

This paper, "Force Echelon Axiom Theory" is about replacing Einsteinian General Relativity theory. The beginning error in General Relativity is what's called "Principle of Equivalence."[79] There, the faulty assumption that Mr. Einstein made is as follows. "An astronaut in a cloaked spaceship resting on the surface of the earth feels the gravity force and he cannot distinguish such gravity force from the inertial force that we would experience when the spaceship is accelerating at 9.8 m/s^2 out in the space away from any planets or stars."

Is this true?

2. A Familiar Setting

Let's say, the astronaut on the earth has a hand-held accelerometer.[80] His spaceship has no windows, so he can't see outside. But he can read his accelerometer and it reads zero, because the spaceship is parked. Later days and weeks, he is out there in the middle of the space, far away from any planets or stars. And the artificial intelligence computer[81] of his ship starts the ship's engine and the ship begins accelerating.

[79] See https://en.wikipedia.org/wiki/Equivalence_principle .
[80] See https://en.wikipedia.org/wiki/Accelerometer .
[81] See https://en.wikipedia.org/wiki/HAL_9000 .

He feels the acceleration in his body, which is safely tightened with a seatbelt. And he reads the accelerometer, which reads $9.8m/s^2$. As one can easily see, Mr. Einstein was wrong again, in such an elementary, basic way. Gravitational pull is fundamentally different from inertial pull and they are not equivalent. A weighing scale operates differently than an accelerometer. Even a human body can tell the difference between gravitational pull and accelerative pull.

On earth, the astronaut's weighing scales reads the man is 180 lbs., and his accelerometer reading is zero. Out in the space, when the ship is accelerating at $9.8m/s^2$, his weighing scale behind his back reads the man weighs 180 lbs., but this time, the accelerometer also reads $9.8m/s^2$. This is a huge difference between gravitational force and accelerative force. They are not two equivalent forces and they are easily distinguishable forces. The man can tell the difference between the two forces by the way they feel, and the accelerometer can tell the difference as well. Alas, Mr. Einstein couldn't tell the difference. But that does not mean the two forces are equivalent. That means Mr. Einstein was wrong.

3. Symmetric Velocity

Let's say, the planet earth is the static observer. According to earth, you are standing still. According to earth, air wind is blowing at 10 m/s. You feel the air molecules hitting your skin.

Next scenario, the air is standing still relative to earth. And you are running at 10 m/s on earth. Then, the air molecules are hitting your skin at 10 m/s. The two scenarios are symmetric, equivalent, and indistinguishable. That's inertial symmetry theory. It's basically a restoration of Galilean relativity, but we go beyond Mr. Galilei. Slightly so.

Slightly how so? We're basically saying that a man running east at 10 m/s in a static universe is equivalent to the rest of the universe moving west when the man is standing still. That is, the earth spinning around its axis in a static universe is equivalent of the universe rotating around the static earth. Mr. Galilei said, "the earth rotates." We are saying, "the sun rotating the earth, the earth rotating the sun, they're the same thang. So Mr. Galilei, and the Christians of your days, you were both correct."

Of course, there are more than one planets around the sun, so Galilean, Copernican way of thinking is by far more efficient and simpler way of thinking of planetary movements, and science prefers efficiency, simplest explanation.[82]

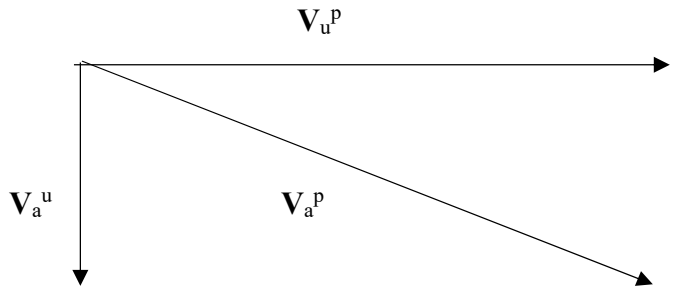
Now, let's go back to a spaceship with a window this time. The spaceship's window is transparent, so the lone astronaut can watch the beauty of the universe, including twinkling stars far, far away. And since they're far away, it's as if they're standing still, which provides him a

[82] See https://sco.wikipedia.org/wiki/Occam%27s_razor .

handy dandy tool, the static observer, the static universe. And his ship is moving toward the north star.

Relative to the static universe, the spaceship is going north at 10 m/s. Then there enters a photon through the ship's western window. The photon is traveling east. Then, to the astronaut, the photon's trajectory will look as if the photon is traveling southeast. It is because the ship moving north is equivalent to the rest of the universe moving south, from the astronaut's point of view. It is because for Adam the astronaut, it's more convenient to think that he is standing still, because Adam is, like anyone else, egocentric.

That mirroring velocity of the rest of the universe traveling south, when Adam wants to think he's standing still, we will call such reflective velocity, a symmetric velocity. More precisely, we may call it the symmetric velocity of the universe, according to Adam's egocentrism or ego-staticism. Then, the trajectory of the photon is a vector summation of the photon's southbound 10 m/s, and its eastbound *c* m/s.



That is, in vector algebra,

$$\mathbf{V}_a^p = \mathbf{V}_a^u + \mathbf{V}_u^p$$

4. Symmetric Force

Symmetric force is like Newtonian action-reaction pare of forces,[83] but not exactly. How not exactly? It's because we go beyond Newtonian thinking, just like we went beyond Galilean viewpoint. Do we go beyond Einsteinian thinking? Well, we accredit Mr. Einstein for asking the right questions, but we reject his answers both in Special and General Relativities. What we do here is go back to Galilean/Newtonian frameworks and then move beyond them.

[83] See https://en.wikipedia.org/wiki/Reaction_(physics) .

Now, let us get back to the basics once more. Or many times more to come. That's the spirit of Cartesian inquiry.[84] So. Imagine yourself sitting in an airplane with seatbelt on. The airplane is in its runway, standing still. And there is this tennis ball on the aisle up front, staring at you and this ball is not wearing any seatbelt. As the airplane accelerates, what you observe is the tennis ball rolling toward the aft of the airplane with an acceleration. Of course, you feel the ethereal accelerative inertial wind force blowing at you as well.

Assuming that all the windows are closed and that you are egocentric like anyone else, you'd rather conveniently think that you are sitting still and what's moving is the ball and this ball has an acceleration. Ignoring fricative effect of the carpet and air, the ball will be accelerating toward the tail of the airplane at the same acceleration as the airplane.

Assume that the ball has a special GPS tracker inside and an observer at the airport is tracking its location. During the time between the airplane's rest and the time when the ball hits the back wall of the airplane's interior, ignoring friction effect, what would be the airport observer's observation of the ball's movement?

.

..

…

….

…..

To the airport's observer, the ball has been standing still for that duration relative to the airport, while you the airplane passenger have been observing the ball traveling, accelerating from the front of the aisle to the back of the aisle, relative to the airplane's floor. This is the symmetry of acceleration.

Let's talk about the Newtonian action-reaction perspective. The force generated by the airplane's engine is creating the airplane's acceleration to move forward. But you feel that you're being pushed backward against the back support of your seat. That much is action-reaction. Engine's forward push is paired with inertial force that pushes you backward.

[84] See https://en.wikipedia.org/wiki/Cartesianism .

But when it comes to photon, the Newtonian action-reaction concept cannot quite address the picture very well. Why? It's because photon has no mass and the Newtonian definition of force presumes the existence of mass, like so:[85]

$$F = ma$$

5. Trajectory of a Photon

We do owe Mr. Einstein's good designing of his thought experiments. It's just that his imagination went south later on //xD So. Let's get back to the spaceship away from any stars or planets where gravitational effect can be ignored.

Your phenomenal spaceship has windows so that you can see the wonders and majesty of the universe. And stars and galaxies are so far away, so that in your eyes, they're standing still and they serve you as a static frame of reference.

In this ship, the back of the ship is the floor and your armchair is heading the top of the ship and you are sitting awkwardly looking up, facing north. And the height of the window measured from the floor is h.

Relative to the universe, your ship is accelerating with a m/s^2. Then, a photon gets into your ship from your western window. You observe the photon's trajectory. It would be a parabolic curve, not a straight diagonal line like before, because your ship is no longer having a constant velocity, but it's accelerating toward the north star. Why parabolic? Let's recall what we learned in school days and review it, shall we?

We need to set up some variables. Say, the photon's horizontal velocity is c, as usual. It's vertical velocity at a given time t, let's call it v. And t At a given time t, let's say the photon has traveled x meters horizontally, and y meters vertically. Then, all we need to do is to find out a nice equation where both x and y appear.

For all we know,[86]

$$x = c\,t$$

$$y = h - v\,t - a\,t^2 / 2$$

$$v = a\,t$$

[85] See https://en.wikipedia.org/wiki/Newton%27s_laws_of_motion .
[86] See https://courses.lumenlearning.com/boundless-physics/chapter/projectile-motion/ .

Then, we know:

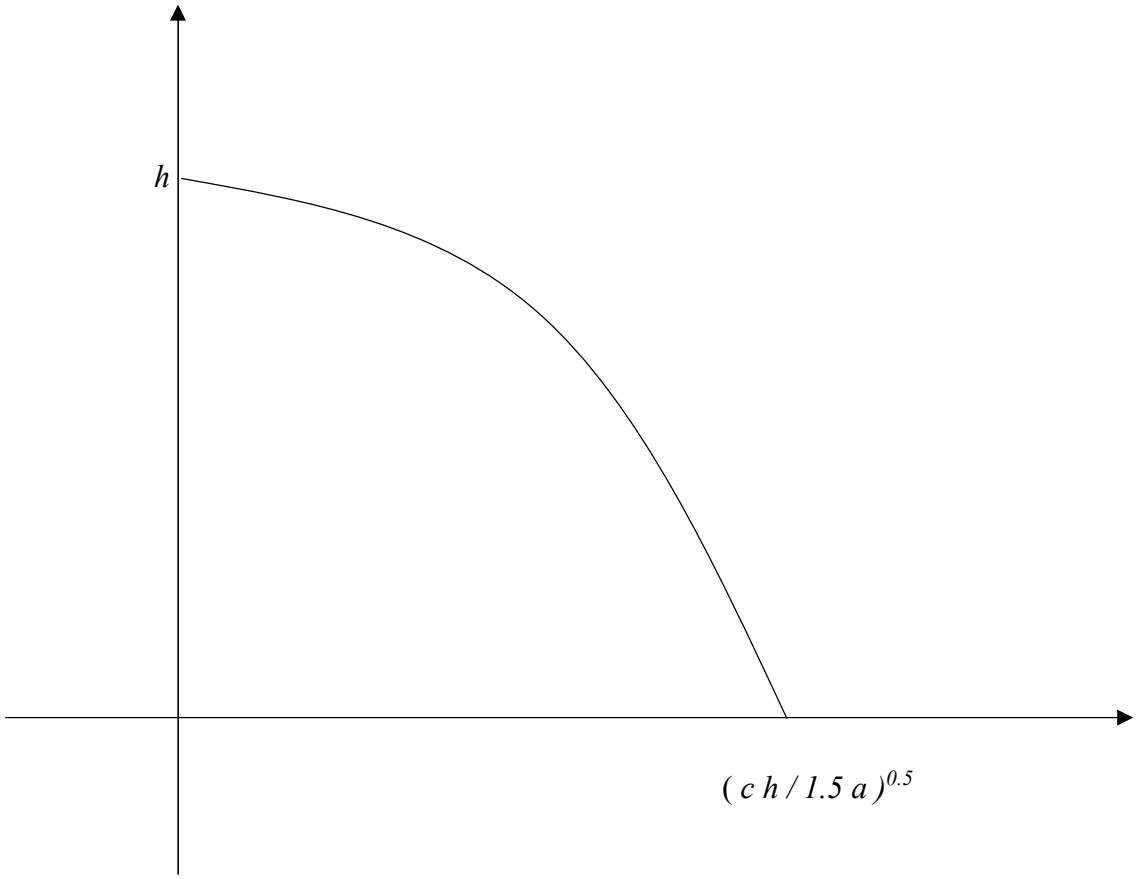
$$t = x / c$$

$$y = h - a\ t\ t - a\ t^2 / 2$$

$$= h - 1.5\ a\ t^2$$

$$= h - 1.5\ a\ x^2 / c$$

Long story short, the trajectory of the photon who sneaked into your accelerating ship, shooting for the north star, looks like this:



6. Other Settings with Different Forces

a. Engine Force

Before we start talking about other forces, let's get back to the spaceship and its jet engine's propulsive force. The engine uses fossil fuel, which has chemical bonding energy.[87] Such energy gets converted into mechanical work energy, like so:[88]

$$E = W = F\,s = m\,a\,s$$

Then, we can calculate the acceleration of the ship, as:

$$a = E / (m\,s)$$

Of course, s is the distance that the ship travels during the acceleration of the ship.

One thing we should remind ourselves is that the photon that seems to be accelerating toward the ship's floor in the astronaut's eyes, is actually not moving in y-axis, according to a static observer outside the accelerating ship. Remember the tennis ball on the aisle floor of an accelerating airplane? To the static airport observer, the ball is standing still, and it's the airplane that's accelerating. To the passenger in the airplane, it's the ball that's accelerating toward the back of the airplane, because the ball is not tied down and we ignore the fricative effects.

Now, to the astronaut, the photon seems to accelerate toward the floor of the ship, but photon has no mass. Then how do we calculate such photon's acceleration relative to the astronaut?

.

..

[87] See https://en.wikipedia.org/wiki/Bond_energy .
[88] See https://en.wikipedia.org/wiki/Work_(physics) .

…

This is where symmetry concept kicks in. The acceleration of the photon relative to the ship/astronaut is symmetric to the ship/astronaut's acceleration relative to the static universe' frame. It's just that the photon is not moving vertically, when the astronaut is moving. So in the egocentric eyes of the astronaut, the photon is moving.

But since we're not dealing with inertial movement (constant velocity) anymore, it's not inertial symmetry. It's accelerative symmetry. Or symmetric acceleration, is what the photon has, in the eyes of the astronaut. And such acceleration is simply the same acceleration that the astronaut reads on his accelerometer. If the photon has its own accelerometer, of course its reading will be zero.

b. Acceleration in Electric Force

Electric charge is about relative numbers of electrons and protons in an object.[89] If there are five electrons than protons in an object, the object has a net charge of -5, and it's no longer neutral, but polarized, and it transforms the 3D space around it with electric force field.[90] But since both electrons and protons have mass, an electric charge necessitates a substrate mass to reside in.

That is, electricity cannot exist without an underlying object with a mass. This is the key difference between a photon and electrically charged object: a photon occupies a finite space with its wavelength and amplitude, but it does not require an object with a mass for the photon to sit on. A photon can even exist in vacuum.

Now, let's go ahead and calculate the acceleration of a charged particle in an electric field:[91]

$$F = k\, q_1\, q_2 / r^2 = m\, a$$

$$a = k\, q_1\, q_2 / (m\, r^2)$$

That is, if q_1 is free to move around on a frictionless floor and it has a negative charge, and if q_2 is fixed on the floor and has a positive charge, then q_1 will move toward q_2 with acceleration of a when the distance between the two objects is r.

---

[89] See https://en.wikipedia.org/wiki/Electric_charge .
[90] See https://en.wikipedia.org/wiki/Electric_field .
[91] See https://en.wikipedia.org/wiki/Coulomb%27s_law .

c. Acceleration in Gravitational Force

Let's bring up the storied Newton's universal gravity equation to calculate acceleration of an object with mass, m, attracted to a by far bigger object, M:[92]

$$F = G\,m\,M / r^2 = m\,a$$

$$a = G\,M / r^2$$

Observe that in the acceleration above, there is no term of m, which used to exist in the acceleration generated by an electric force field.

As you can see, all these forces are different. There are similarities but there are undeniable differences. The imaginary accelerative force, which the astronaut observes as the force that pushes him backward and that even pushes the photon in the ship toward the floor of the ship, that inertial force doesn't even require the photon to have a mass. Inertial force, i.e., accelerative reactionary force, also we nicknamed as ethereal wind force, is not equivalent to gravitational force. Why?

.

..

…

….

…..

[92] See https://en.wikipedia.org/wiki/Newton%27s_law_of_universal_gravitation .

It's because gravitational force requires an entity to have a mass, while inertial force requires an entity to have spatial existence.

d. Einsteinian Fallacy

The academic discipline of logic has been in existence for millennia.[93] But, the modern development of mathematical logic was still developing in Mr. Einstein's days.[94] So it's unfair to fault our dear Mr. Einstein for not knowing enough about set theory[95] or formal logic or first order logic[96] or informal fallacy theory[97].

The error Mr. Einstein committed is known as hasty generalization, faulty generalization, or hasty conclusion.[98] Yes, there is a definite similitude, even mathematical identity, between light's trajectory in the accelerating spaceship and the parabolic trajectory of a tennis ball being tossed off a house's window. But, similitude is not equal to identity, or equivalence. Between inertial force and gravitational force, there are similarities and there are differences. The fact that two things are similar does not mean the two things are identical or equivalent.

What Mr. Einstein did in postulating the "equivalence principle" was not a leap of faith, but a leap of fallacy.[99]

e. Some Other Forces that Claims Hegemony over Photons

So Mr. Newton defined force as:

$$F = m\,a$$

As we noted earlier, this definition is insufficient, because force can apply to an entity without a mass, like photon. So we need to come up with new definition of what force is.

---

[93] See https://en.wikipedia.org/wiki/Logic .
[94] See https://en.wikipedia.org/wiki/Mathematical_logic#History .
[95] See https://en.wikipedia.org/wiki/Set_theory .
[96] See https://en.wikipedia.org/wiki/First-order_logic .
[97] See https://en.wikipedia.org/wiki/Fallacy#Informal_fallacy .
[98] See *Ibid.*
[99] See https://en.wikipedia.org/wiki/Formal_fallacy , especially the sections about illogical jump, a.k.a., *non sequitur.*

Simply put, force is something that changes an entity's velocity. Velocity can be conceptually defined as:

Velocity = *Speed* + *Direction*

More generally, a vector can be defined as:

Vector = *Quantity* + *Directionality*

As we all know, velocity is a vector with speed as its quantitative component and direction as its qualitative component.

So. A force can change an entity's direction only, without changing its speed. For instance, the gravitational force of the sun changes the direction of the earth's tangential velocity, but not its speed.[100] Sometimes a force changes an entity's speed only, but not its direction. An example is a charged object speeding up in a straight line in a uniform electric field.

Now, let's talk about photon. We already have seen a photon being blown away, speeding up with acceleration, by the accelerative inertial ethereal wind force, in the eyes of an astronaut in an accelerating spaceship. But that's not the only occasion that a photon changes its velocity. There are other forces out there that can change a photon's direction or even speed. Can you think of one perhaps?

.

..

…

….

…..

[100] See https://en.wikipedia.org/wiki/Circular_motion .

Well, it's easy actually. Think of a mirror. Say, imagine a perfectly reflective theoretical mirror. Then this mirror will bounce off a photon, without changing its speed, only changing its direction. How about a theoretical black body[101] that can stop a photon, reducing its speed to zero, converting the photon's electromagnetic energy into a heat energy?

We can also think of a force that changes a photon's speed, but not velocity. What would it be?

…..

….

…

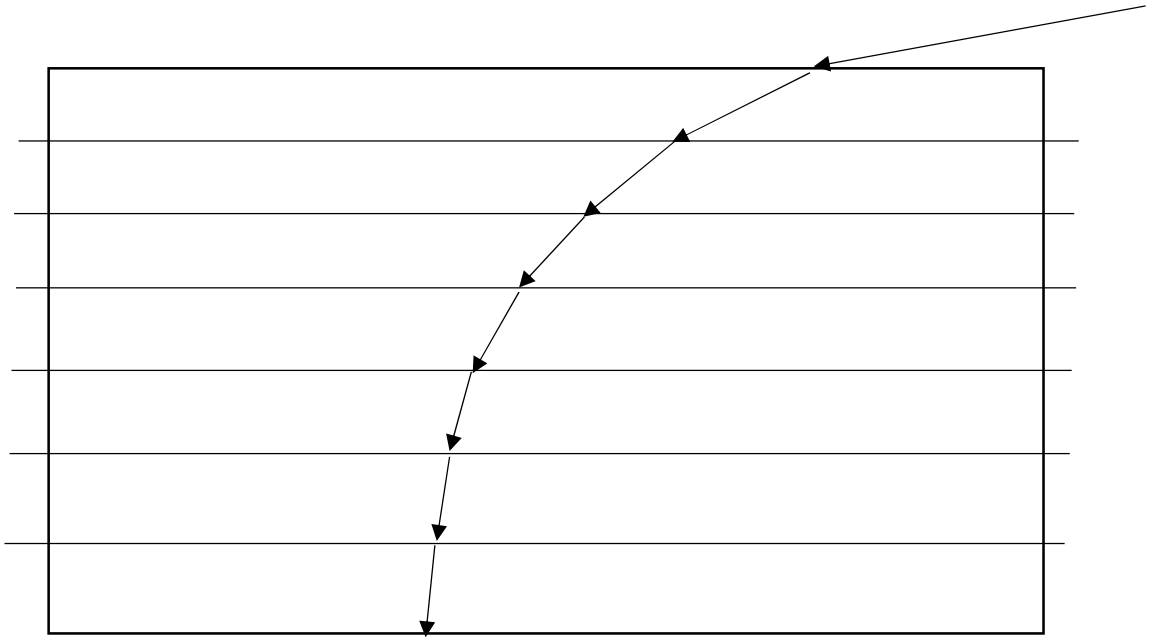
..

.

How about an entity as mundane as water? Or even, air? Or glass? Or a glass of water? //xD If a photon dives into the water with a perfect 90 degree angle, then the photon only slows down but it does not change its direction.[102]

The thing is, a photon does slow down in a transparent medium. How much it slows down depends on the medium's density.[103] So let us design an experiment. Let's say, we have multiple slabs, an array of thin glass containers stacked on top of each other. And each slab contains saline water, and the density of the salt in those slabs vary. The top slab has no salt, just pure water. The second slab below has a bit of salt in it. The third slab has more salt, and so on. So let us draw a diagram to see how a photon travels in this setting.

[101] See https://en.wikipedia.org/wiki/Black_body .
[102] See https://en.wikipedia.org/wiki/Refraction .
[103] See *ibid* .



As we can see, the picture becomes a familiar one: a parabolic trajectory. If we slide the six separating thin glasses out of the way, the salt water will start to slowly mix and for a moment, we will have a smooth gradient of thickening salt water as the photon travels downward. At that moment, the photon's trajectory will make a smooth, differentiable curve.

What kind of force is this, that can change the direction of a photon? Well, it's not exactly a friction force, as a photon has no mass, but it does look like friction force. No matter what name we give to that force, we can come up with a more generic definition of what force is. And here it is:

$$F = k\,a$$

Here, we merely substituted *k* for *m* from Newton's formula, because not every entity has a mass, but some kind of force can still apply to that entity.

Here, we only dealt with a photon, an entity without mass, but an entity still subject to some forces out there. Are there some entities other than photons, that are subject to some forces? Yes, there are. And here we are again, crossing over from the universe of physics, to the universe of metaphysics. That metaphysical universe is what we shall revisit and explore in more depth in the next, final chapter of this paper.

VII. The Metaphysics of the Ideological Force Field

1. Intermission

Wow. We've come a long way together, haven't we? Let us pat ourselves' backs and take a good break that we've earned by studying so hard //xD

How about a gig? Like, acting? Yeah. Let's do it.

…..

….

…

..

.

So basically, we're saying that just because a person is a scientist, we can't just take the scientist's words as an absolute truth, because scientists, they're humans too. Thus, scientists may make mistakes and may even lie.

S: Wha wha wha wha wait a minute, stop it right there. How do you know scientists err or lie? You ain't even a scientist.

A: Uhh….who are you?

S: I am a scientist.

A: Oh. Okay. Well, welcome to the the the…this. Welcome to the discussion, Mr. Scientist.

S: You you you you don't know what you're talking about. That's your problem, you American Asian Alaskan Aging A**.

A: Well. You're a scientist, so let's talk science.

S: No. I am "the" Scientist.

A: Okay, so let's talk some science.

S: First of all, your paper su**s. It's a cr** sh**. See what I'm sayin'?

A: Well, I respect your opinion, Sir.

S: Mr. Einstein was "the" real scientist. You ain't. You're a wannabe.

A: Hey, if you say so. But I say this. Mr. Einstein didn't got the right attitude. He was arrogant. He thought he defeated Sir Mr. Newton and he paid a visit to Mr. Newton's grave and he said, "Mr. Newton, I'm sorry." That was such a presumptuous and conceited gesture. He thought he was right but we proved him wrong.

S: You live in an imaginary world inside your cubby hole. You're an Asian a** hole. Am I right?

A: I am an Asian and yes, I do have an organ dedicated for defecation.

S: Ha!

A: So would I pay a visit to Mr. Einstein's grave?

S: Then what, commit a misdemeanor by discharging your yellow liquid over it?

A: Oh no. I was gonna say, well first of all, I don't know where his grave is. Second of all, I have neither money or time to visit his grave. So no, I won't visit his grave.

S: See? You're rude.

A: But,

S: But what?

A: I won't say "I'm sorry, Mr. Einstein, we proved you wrong." I will not say that. Because we are not sorry for disproving him.

S: Then what are gonna say to him?

A: I will say, "Mr. Einstein, we thank you. We thank you for asking the right questions. It's just that you made wrong answers. But hey, even you, 'the' Mister Einstein is a human being and you, like anyone else, make mistakes sometimes."

S: Oh?

A: Yes. He made two errors. First, in his special relativity, he assumed that the relative speed of light is constant regardless of speed of observers. Everything in his special relativity is based on that one assumption. Since we proved that assumption is false, his entire castle of special relativity collapses like an array of dominos, or a deck of cards. We've done that in our previous paper, *Inertial Symmetry Axiom Theory*.

S: Oh. That. I haven't read it.

A: Highly recommended.

S: I won't read it.

A: Just a suggestion.

S: Ok. Go on. What's his second error?

A: Before we go on with this, I do apologize to the people in the whole wide world, if I offended their sentiments. Mr. Einstein has huge followings, a huge fan base. Many schools, hospitals and museums and libraries are named after him.

S: So are you saying we should rename them and burn his books?

A: lol. *ell no.

S: I thought you're mealy-mouthed. Not. You're dirty. You're dirty-mouthed.

A: Well. Whatever. I also do apologize to the scientists who dedicated their younger days and youths and careers studying and developing his relativity theories. I'm sorry to them. That, yes, I do say it. I'm sorry.

S: Apology unaccepted.

A: Well.

S: No worries. Your papers, including this one, shall go unnoticed. No one shall pay attention to this or that paper. Amen. Say amen to it. It. Say it! Or else!

A: Whatever, Mr. Scientist.

S: So let's hear it. What's the second error?

A: The second error, of course, concerns his general relativity. He assumed that the inertial force is equivalent to the gravitational force. His entire general relativity is based upon that one assumption. We disproved that key assumption, and again, the entirety of his general relativity collapses. Ladies and gentlemen, there is no such a thing as a black hole.

S: But there is a such a thing as an a** hole. And that's you. You are it. You're an a** hole.

A: Mr. Scientist. Please. My advice? Be nice.

S: Be deserving of me being nice to you, Sir.

A: Surely will I do so, Mr.

S: So. What else?

A: So you're a scientist?

S: No. I am "the" Scientist. Address me as "the" Mister Scientist please.

A: Ok. "The" Mister Scientist, with Mr. fully spelled out.

S: Yeah right. I am "the" Mister Scientist. And you are "the" Satanist. "The" 666. "The" Antichrist perhaps.

A: Why do you say that?

S: Because your mouth is full of blasphemy and sacrilege, offending the god of physics.

A: Oh, I get it. To spice things up, you wanna pour some religious juice into this paper, huh? Well, we'll get to it. Wait for the next section *et seq.*

S: No. We got no time for your s***ty paper.

A: Well that's your choice, the Mr. Scientist Sir.

S: You are a destructionist, a vandalizer. You spray all over the walls of the cathedral of Einsteinian Special and General Relativity Theories. You even urinate over his grave.

A: I never did. And never will I commit such a misdemeanor. I'm a law-abiding citizen of the United States. I am a well-behaved gentleman.

S: No Sir. You're nobody. You're a big nutty nuthing. You got your ambitions, which will amount nuthing. Mark my word: nuthin'.

A: Whatever you say, the Mr. Scientist.

S: You are an anti-Christ.

A: How so?

S: Because Mr. Einstein is our savior, you dummy!

A: Oh. Okay. So according to you, Einstein equals to Jesus. And if I'm anti-Einstein, I'm anti-Jesus. Since Jesus equals Christ, I'm anti-Christ? Is that what you're saying?

S: Bingo Jingo Hallelujah!

A: Well, the thing is, I'd say I'm more Shiva-ist. The Hinduist god of destruction, Shiva. Hallelujah Nirvana, RIP.

S: I don't think so.

A: How about a creative destructionist? A constructive destructionist perhaps. Look. If there is this old house occupying space, we gotta demolish it and build a new house, because the old one is sitting on a very expensive piece of real estate, like MIT or Harvard or Yale or Stanford or Princeton. Einsteinian relativity theories are wasting all these men and women's precious time. And how about the memory space of people's brains? I don't care what schools they have attended or not. People's brain space, nothing is more precious than that and it's being wasted with wrong theories like Mr. Einstein's special and general relativities. I wanna put a stop on all that nonsense and that's why I did what I did. I should be regarded as a hero, not a villain.

S: A hero? Huh. Hero my a**.

A: The Mr. Scientist, please. Would you watch your mouth before you utter those words?

S: How can I watch my mouth, you Asian man? Can you watch your mouth, literally, without a mirror?

A: Well, figure of speech.

S: Whatever man. Gotta go. I gotta stash some nuts before winter comes, so.

A: ….huh?

S: Are you drinking and writing again, Asian?

A: Hey, I'm at home and I ain't going nowhere today. It's a holiday today, so.

S: I am the Mr. Scientist.

A: Then you make mistakes too, because you're a human being. Making mistakes, that's human nature and human condition. No human being is perfect.

S: Wha wha wha wait a minute. Who said I'm a human being?

A: You said you're a scientist.

S: No, The Scientist.

A: Whatever. You're the scientist, so you're a human. A human subject to errors and lies and deceptions. You don't instantly become a deity or a saint after your get your Ph.D.

S: Who said I got Ph.D.? What is Ph.D. Is it a nut? A species of a nut tree? I heard the term, nutty professor before.

A: … Why are you so obsessed with nuts?

S: Cuz that's all I eat, you dummie hommie.

A: ……. are you…. a squirrel?

S: Of course I am. No. I am "the" squirrel, "the" Mister Scientist The Squirrel.

A: I didn't realize squirrels study science.

S: Who said we ever did?

A: …you don't?

S: He** no, man. Why would I or other squirrels study f***ing science? F*** science.

A: Then why do you call yourself, The Mister Scientist?

S: It just is my name. I used to be a pet to this mad scientist back in the days once. He stopped feeding me. One day, I ran away. He named me, "The Mister Scientist." So I got stuck with it.

A: Oh. That explains.

S: K dude. Gotta go before snow comes. Gotta gather up all the nuts and hide them before winter comes. Adios!

A: Good-bye, The Mister Scientist The Squirrel. By the way, there's nothing to worry about. The new theory in physics replacing old ones, it's always been that way if you're familiar with the history of science. It's part and parcel of evolution. It's a continuing entertainment event. We're not firing anyone, we're not eliminating any jobs, we're not burning books or renaming buildings. We're, however, indeed, making a revolution right here and right now. But it's a bloodless one, a cost-free one. Some say the best thing in life is free. So yeah. It's free. Take it or leave it. It's people's choice whether they accept the new theory, whether they depart from the old one. It's people's rights, freedom, free will, liberty and justice and truth for all.

//xD

2. Ideological Force Field and Its Denizens, the Concepts

…to be continued in the next research paper…

Epilogue[104]

Hello everyone, thank you for your kind and generous readership //:-D We hope you enjoyed the show. Our next article to write and publish will be titled, "Metaphysics and Physics- the Parallel Universe between Philosophy and Science." There, we'll introduce some more interesting concepts.[105]

Thank you for your time and see you later, kind and generous ladies and gentlemen //:-)

[104] This paper was started being written on 9/30/2020. It was finished being written on 10/23/2020 //:-)
[105] See https://en.wikipedia.org/wiki/The_Road_Not_Taken .