

Theory of Everything by illusion

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Abstract

Theory of Everything is The Holy Grail of Science. Scientists all over the world have searched it for a long time, without any convincing outcome. The best effort so far has been so called M-theory, which can't be falsified. Presented theory is a new theoretical platform which functions as the true theory of everything.

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Theory of Everything by illusion

Theory of Everything by Illusion (**TOEBI**) demonstrates that gravitational, strong and electromagnetic interactions are generated from the same phenomenon and they are distributed by tiny force transfer ether particles (**FTEPs**). TOEBI gives equations for force calculations which apply in scale from atomic to astronomical. TOEBI is based on two hypotheses:

- Big Bang created very tiny spiked sphere like objects (physical particles) which vary in sizes.
- Gravitational, strong and electromagnetic interactions between particles and system of particles are purely mechanical (particle collisions and/or particle spinning and FTE density variations).

Early Universe formatted particles as we know today. The tiniest particles, force transfer ether particles (FTEPs), create force transfer ether (**FTE**) into our universe. All particles are spinning (due to Big Bang), hence generate FTEP movement inside FTE.

Force transfer ether particles

The first hypothesis stated that Big Bang created a very tiny spiked objects (physical particles) which vary in sizes. Current physics can detect many of these particles, like electrons. Exact shape is not known and that's why we need the first hypothesis. Every particle has tiny spikes. One may think that these spikes are actually the raw material from Big Bang. Because the high pressure in early universe spikes got entangled with each other and created various spiked spherical particles. At first, the smallest particles (FTEPs) survived the pressure. When the pressure went down, other particles survived, like electrons.

From the first hypothesis we can explain for example phenomenon like faster than light breakdown of interference pattern in the double slit experiment. Moving photon generates waves propagated through FTE. Because of the spikes, FTEPs are connected to each other. This pure physical connection causes interference pattern to disappear instantly in case of blocking or in some other way observing slits in the experiment.

Metric

TOEBI is based on spinning particles and their properties. In order to predict future, within any physics theory, we have to define time. Contemporary definition based on atomic events is an excellent choice. Usage of atomic clock ties the concept of second elegantly with the dynamic system called universe.

During one second, for example, photon moves a certain distance and electron spins n times around its axis. All units, second, kilogram and meter should be linked together, therefore we postulate **TOEBI metric**

$$\frac{kg}{m * s} = c \text{ (constant)}$$

Energy

What attributes contribute to particle's energy at rest? Current answer comes from Einstein, rest mass and the speed of light. Derived from TOEBI's hypotheses only reasonable definition for energy is

First Law of TOEBI

$$E = J \frac{s}{kg} m \|\vec{f}\|$$

where m is particle rest mass and \vec{f} particle spinning vector. Vector gets positive values if spinning happens counter-clockwise and negative in case of clockwise spinning. Based on First law of TOEBI we can make the relation between particle's energy and its kinetic energy

$$mf = \frac{1}{2}mv^2$$

hence particle's velocity changes are linked to particle's spinning frequency changes.

Δ spinning frequency - Δ velocity relation

$$\Delta f = \frac{1}{2}\Delta v^2$$

Derived relation is actually quite obvious. What other options particles could have in order to store kinetic energy? More on this mechanism in source of inertia chapter.

Gravitational constant

Gravitational constant (2010 CODATA-recommended value)

$$G = 6.67384(80) * 10^{-11} \frac{m^3}{kg * s^2}$$

gives us the needed unit and proportional conversion. But why masses and distance only are not sufficient in order to calculate gravitational interaction? According to Newton's law of universal gravitation there is attractive force between two objects

$$F = G \frac{m_1 m_2}{r^2}$$

where m_1, m_2 are the masses and r is the distance between the centers of the masses. Newton's law of universal gravitation is sufficient if there is no electron (in the object) spinning vector alignment induced (magnetic) interaction.

Force

Interaction between elementary particles can be calculated based on spinning phenomenon. We define force between two elementary particles as **Second law of TOEBI**

$$\vec{F}_{1 \leftarrow 2} = (G_1 + G_2) \frac{M_1 M_2}{r_{12}^2} \left(\vec{e}_{12} \cos \alpha + \frac{\vec{f}_1}{f_1} \times \frac{\vec{f}_2}{f_2} \sin \alpha \right)$$

where M is mass, α is angle between spinning vectors, r is distance between particles (center to center), $\vec{e}_{12} = \frac{\vec{r}_{12}}{r_{12}}$ is unit vector pointing from particle 1 to particle 2 and

$$G_x = \frac{1}{2} f_x^2 \frac{m^3}{kg} \text{ (G factor),}$$

where f is the spinning frequency of the particle. On the other hand

$$\vec{F}_{2 \leftarrow 1} = (G_1 + G_2) \frac{M_1 M_2}{r_{12}^2} \left(\vec{e}_{21} \cos \alpha + \frac{\vec{f}_2}{f_2} \times \frac{\vec{f}_1}{f_1} \sin \alpha \right)$$

applies, where $\vec{e}_{21} = \frac{\vec{r}_{21}}{r_{21}}$ is unit vector pointing from particle 2 to particle 1.

Strong interaction

Strong interaction and strong residual force can be also calculated with the laws of TOEBI. Atom Model and Relativity [1] covers these aspects in more detailed fashion. Few relevant issues are presented here.

Based on First Law of TOEBI, proton's (and electron's) spinning frequency is roughly $8.98755 * 10^{16}$ 1/s at rest on Earth. High spinning frequency guarantees very powerful interactions between particles. At the same time there will emerge a repulsion from colliding FTEPs between particles.

Electromagnetism

Electromagnetic interaction can be calculated directly with second law of TOEBI. Previously classical atom models thought that electrons orbit around the nucleus, just like planets orbit around Sun. It's very understandable idea after all. In reality, electrons can orbit around the nucleus (and radiate photons) but they don't have to. For example, electrons involved in bonds are pretty static. Those electrons function as a buffer between nucleus. High FTE density around nucleus prevents electrons in normal conditions from colliding with nucleus.

Changes between different electron orbits (towards nucleus) in atom generate photon emission. When electron returns to its ground state, it will cause a shock wave of FTEPs toward nucleus. FTEPs get compressed together and so new photon is created. We can assume that created photon is also spherical and spinning because particles involved in the process are spherical and spinning too.

Light's wavelength is actually a presentation of photon's spinning frequency

$$\lambda = \frac{c}{f}$$

Magnetism

Material is magnetized when its free valence electrons have parallel spinning vectors inside a domain (surface area) and domains have more or less the same alignment. Direct consequence from this magnetism mechanism is that there can't be so called magnetic monopoles.

Planck constant

Modern physics states Planck constant h and its relation on photon's energy and frequency

$$E = hf$$

where f is the frequency of photon. Direct consequence from first law of TOEBI is that Planck constant, without its units, presents photon's cross section (mass).

Photon's cross section increases when photon enters more dense FTE. Photon encounters more FTEPs in its path which induces larger cross section (mass) for it. Phenomenon is known as (gravitational) blue shifting. Opposite phenomenon, (gravitational) red shifting, happens when photon exits denser FTE. Declining FTEP amount decreases photon's cross section.

Photon momentum

Based on First Law of TOEBI (photon mass = Planck constant's value in kilograms)

$$E = hf = \frac{hc}{\lambda}$$

therefore

$$\frac{h}{\lambda} = \frac{E}{c}$$

On the other hand

$$p = hc = \frac{hcc}{c} = \frac{hf\lambda c}{c} = \frac{E}{c}\lambda c = \frac{E}{c} \frac{c^2}{f}$$

so following relation applies

$$\frac{f}{c^2}p = \frac{h}{\lambda}$$

Compton scattering

Due to conservation of momentum

$$\vec{p}_e = \vec{p}_2 - \vec{p}_1 = h\vec{c}_2 - h\vec{c}_1$$

hence

$$m_e^2 v^2 = 2h^2 c^2 - 2h^2 \vec{c}_2 \vec{c}_1.$$

Therefore we get kinetic energy of electron

$$\frac{hc}{\lambda_1} - \frac{hc}{\lambda_2} = \frac{1}{2}m_e v^2 = \frac{h^2 c^2}{m_e} (1 - \cos \alpha)$$

therefore

$$\frac{\lambda_2 - \lambda_1}{\lambda_1 \lambda_2} = \frac{hc}{m_e} (1 - \cos \alpha).$$

Obviously following applies

$$\lambda_1 \lambda_2 = \frac{h^2}{p_1 p_2} = \frac{1}{c^2}$$

so we get the equation for Compton scattering

$$\lambda_2 - \lambda_1 = \frac{h}{m_e c} (1 - \cos \alpha).$$

Speed of light

Speed of light in a vacuum is measured as being constant for all observers. What gives photon its speed? It doesn't miraculously just emerge, at least in TOEBI. Something puts photon into a motion and there isn't too many options either.

Let's say that electrons and protons have a spinning frequency x at rest. What is the greatest speed for any particle which can be generated from this particular spinning frequency? It's the speed of light. Obviously it can be achieved only if particles' spinning vectors are anti-parallel, hence FTEP flux pushes particles apart in the most effect way possible.

What else can be considered as a factor in this process? Obviously particle's cross section which is an area (m^2). FTEP flux from both particles concentrates over that area and that concentration allows FTEPs to push those particles apart at the rate of \sqrt{x} . So obviously protons and electrons **at rest** have spinning frequency $\approx 8.98755179 * 10^{16}$ 1/s ($= f_{rest}$). We can come into the same conclusion also based on first law of TOEBI.

In principle, if we had a fast moving, light emitting, apparatus we would exceed our speed of light? Unfortunately that's not the case. Time and length depends on selected reference frame (TOEBI Metric), so our speed of light equals the speed of light of emitting apparatus. Natural consequence from this phenomenon is light's wavelength changes.

What is mass?

There is a two types of masses in physics, inertial and gravitational mass. Those two are experimentally verified to be the same (within measurements accuracy limits). But what is mass itself? What is the mechanism behind it? Only reasonable way to define mass emerges from particle's properties and only property which isn't involved yet in TOEBI is particle's size.

Some particles are made of multiple smaller particles, like hadrons do. How should we define the size of different particles? Every spinning particle defines repulsive wall around it. Inside that wall another particle comes a part of a new particle. Nuclear fusion is a good example or electron capture in case of neutron creation.

We should define that **particle mass is its (repulsive wall's) cross section**. Cross section is an area (m^2), so based on TOEBI metric

$$\frac{kg}{m * s} = \frac{m^2}{m * s} = \frac{m}{s} = c$$

Proton

Based on the mechanism of a mass it's likely that proton is just constructed from three electrons. Prediction is also supported by the fact that proton's

and electron's energy can be calculated with the same spinning frequency.

Repulsive wall in picture is simplified. In reality, the wall is more pear like.

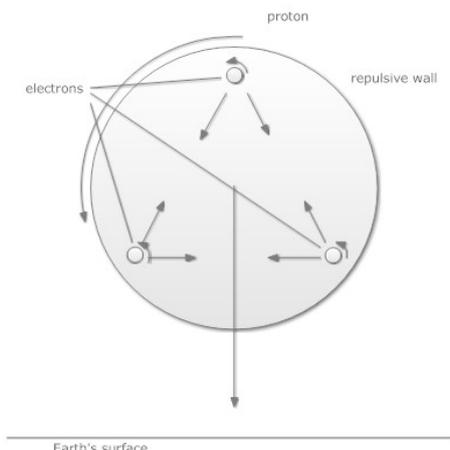


Figure 1: Proton

Configurations based on two or four electrons are not stable. In case of two electrons very small disturbance causes electrons flyby each other. In case of four electrons the problem arises from very easy rolling out effect of upper electrons in construction. Up from four electrons, potentially stable construction are just too big and fragile in order to survive (at least on Earth).

Mass of proton is over 1800 times the mass of electron. Based on previous, we can say that proton's cross section is over 1800 times the electron's cross section. However, measuring the size of proton based on scattering electrons gives obviously a different size (cushion effect). More information about particle sizes can be found from Atom Model and Relativity [1] paper.

Neutron and neutrino

Neutron is also made of three electrons. The unique feature which differentiates a neutron from a proton is neutron's smaller spinning frequency. In case of electron capture the electron penetrates the repulsive wall of the spinning proton (most likely through the spinning axis pole) and decreases both proton's and electron's spinning frequency. We can conclude that ejected electron neutrino is actually the penetrating electron itself!

Another way (not as common as electron capture) to produce a neutron is through β^+ decay which might actually be triggered by an incoming neutrino (work hypothesis). Neutrino comes very close (reduced spinning frequency of neutrino allows that) to one of the three electrons and pushes it towards another electron resulting a new electron (interpreted as positron) and decreased spinning frequency for the proton (energy conservation!) is now interpreted as a neutron. Based on used work hypothesis it's totally understandable that the neutrino flux from Sun effects in some cases the rate of β decay on Earth.

Decreased spinning frequency of neutron enables proton-neutron bond because there won't be too powerful initial interaction between proton and neutron. In case where a proton approaches another proton they generate very

strong pulling (or pushing) force (both spinning fast). Generated pulling force causes these protons just repulsive bounce and/or flyby each other.

Neutrino oscillation is similar to (gravitational) red or blue shifting of light. When neutrino enters more dense FTE it will experience more interactions with FTEPs, hence increasing its mass. When neutrino enters less dense FTE it will decrease its mass.

Why free neutron decays so fast but a neutron in a nucleus doesn't? One obvious reason is the lack of shielding in two ways. There won't be a neighbouring electrons and protons providing shielding. Secondly, reduced spin frequency means also reduced FTE density around the neutron. Also the absence of other nuclei provided FTEPs (this also explains why neutrons are "bloated" in a nucleus when compared to a free neutron) weakens the shielding.

Free neutrons can interact freely with surrounding electrons and protons. These interactions eventually trigger the neutron decay process.

Spin

Quote from Wikipedia:

Spin is an intrinsic form of angular momentum carried by elementary particles, composite particles (hadrons), and atomic nuclei. Spin is a solely quantum mechanical phenomenon; it does not have a counterpart in classical mechanics (despite the term spin being reminiscent of classical phenomena such as a planet spinning on its axis).

Actually it does have a counterpart in classical mechanics. Spin is indeed particle spinning around its axis! That is the core of TOEBI. With that interpretation theory of everything is possible.

Electron spin

Electrons are no exception. When two electrons are close enough in dense enough FTE (without too much of disturbance) they can spin together. Interaction between two electrons reduces the interaction (due to generated "turbulence" in local FTE) between these electrons and other subatomic particles. Usually this happens when electrons are inside an atom in low enough temperature and the phenomenon is called Cooper pair.

The origin of electron spin number is in Stern-Gerlach experiment. The real reason why silver atoms create the observed pattern is valence electron's spin orientation in magnetic field. Magnetic field causes free valence electron to choose its spinning orientation. Emerged spinning orientations attracts the electron towards S or N magnetic pole as described by Second Law of TOEBI.

Synchrotron radiation

Electromagnetic radiation emitted from synchrotron is very misleading phenomenon. It might be the biggest reason why modern particle physics considers classical interpretation of atom structure impossible. Ultra-relativistic

(charged) particle emits photons therefore orbiting classical billiard ball electrons must lose their energy and crash into the nucleus.

In reality situation is very much different in an atomic scale and in a synchrotron. Electrons in an atom are not necessarily orbiting at all, just like in the case of crystals. Electrons participating in bonds are pretty stationary. Naturally inside a standalone atom electrons are free to orbit but their orbiting speeds and directions depend on multiple factors, like thermal energy, nearby electrons, incoming particles etc.

The reason for electromagnetic radiation from a synchrotron is the photon creation (compressed FTEPs) due to acceleration of an electron or a proton. Phenomenon happens also when an electron accelerates inside an atom but with much smaller velocities.

Source of inertia

Spinning particles approach their balanced spinning orientation all the time. For example, inside an iron block, all iron atom nucleus are aligned in relation to Earth's imaginary surface (smooth spherical surface). Electrons have their balanced positions inside a crystal and so on. Same balanced spinning orientation seeking happens everywhere all the time.

What causes inertia? In a situation where an object is at rest its particles are in somewhat balanced alignment towards Earth's surface. If we have two objects, A and B, and object A hits object B. It means that object A has some stored kinetic energy in its particles in form of additional spinning frequency. During the impact energy will be transferred from A to B (elastic collision).

Emerged inertia is actually a work against pulling force between Earth and object B. Object A has its energy stored in higher spinning frequency of its particles. During the impact stored energy causes particles of object B (with smaller spinning frequency) to lose their alignment in relation to large gravitating object's surface (e.g. Earth). Bigger the energy bigger the misalignment. Because close distances between object's atoms exerted force is transferred to every particle.

In the next phase pushing repulsive force between object A and B overcomes experienced force between objects and particles of object B start to precess. Precession is caused by interaction between object B and e.g. Earth (Second Law of TOEBI). Result of precession is bigger spinning frequency for object B's particles. Momentum and energy are conserved.

Very similar idea on energy conservation and inertia is presented by physicist Vesselin Petkov [2].

Examples

Parallel wires

Let's assume that electric current arranges spinning vectors of free electrons parallel and spinning vectors direction is always towards the source of electrons (a.k.a. battery). In future book (Introduction to Theory of Everything by Illusion) this phenomenon is described in more details.

Let's assume that we have two copper wires (AWG 28, 0.08 mm²) 1 meter apart (1 meter above a surface). Half of the surface area of each wire interacts with another wire, so the effective surface area per wire is $5.01 * 10^{-4} \text{ m}^2$. We shall exclude the effect generated from electrons under the surface.

So how many electrons we need in order to generate a force as big as $2 * 10^{-7}$ between the areas? We know electron spinning frequency and mass, so by resolving x from equation

$$2 * 10^{-7} = 2 * G_e x^2 M_e^2$$

gives the amount of needed electrons per surface area which is $\approx 5.46 * 10^9$.

In case we feed the same current but from the opposite ends of wires then based on Second Law of TOEBI generated force is pushing those wires apart.

Force between two elementary charge

Based on Coulomb's law, the force between two elementary particles 1 meter apart is $\approx 2.30662 * 10^{-28} \text{ N}$. Naturally such a small force hasn't been measured directly. On the other hand, based on second law of TOEBI force between e.g. two electrons 1 meter apart (remember, proton is constructed from 3 electrons.) is $\approx 6.702866 * 10^{-27} \text{ N}$. Discrepancy is easily explained with measurement errors when actual measurements were done with greatly shorter distances.

References

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