

THE ANTILIGHT THEORY

By Renald Goulet

(1) ABSTRACT

This antilight theory suggests nothing less than a new paradigm in theoretical physics. It simply doesn't fit with the actual physics. To really appreciate it, we need to put aside many concepts of the traditional physics and start from scratch.

Antilight now becomes the aether Michael Faraday theorized with his fields around 1830 and almost every physicist was looking for at the end of the 19th century.

Every object is built from exploding particles we can call antiphotonos coming from an infinite referential (at least one another dimension) at the speed of light, thus making sense of the formula $E = mc^2$ (3.1) and all of Lorentz transformations.

This way, the Planck equation $E = hv$ (3.6) also makes more sense, h representing the energy of one annihilation of a photon with an antiphotono. The photon is now described as a sequence of explosions with a momentum in a specific direction. Mass of an object can now be considered as the total explosions of antiphotonos interacting with matter.

The Louis de Broglie equation $\lambda = h / p$ (4.1) showing that every object has a wavelength and vibrating is now obvious, the vibration rate is in fact the explosion rate.

If any object can now be the result of antiphotonos annihilation and consumption, gravity can now easily be explained as the missing antiphotonos flow from a big mass (earth or sun for example). We can get rid of gravitons.

With this antiluminous gravity, the energy of the void of $-1.2 \text{ E}+42 \text{ Joules} / \text{ m}^3$ (5.19) can be calculated and a global dynamic stopping pressure of the antiphotonos at $1.2 \text{ E}+42 \text{ N} / \text{ m}^2$ (5.18). With this enormous pressure, gluons are no longer necessary to keep protons inside the nucleus.

Linking of all 4 fundamental forces and linking of quantum and relativity are now possible with this theory

(2) INTRODUCTION

We absolutely need a new paradigm in theoretical physics. Why so many physicists think there is no alternative solution other than the string theory to link quantum and relativity? String theory is only a mathematical construction based on absolutely nothing real, so why so many physicists work on this string theory? Those questions are convincing me that this antilight theory isn't so bad after all, even though it looks quiet eccentric at first sight.

In the first half of the 19th century, Faraday developed the concept of field, which is the measure of a vector force through space, based upon the concept of aether. Without aether, how can a force or energy transfer from one point to another within space? Theoretically, **if you get rid of aether, you should also get rid of field theory**. But as everyone knows, fields are still there, but they are just mathematical constructions based on nothing real, just as the string theory. I can understand in 1915, they didn't know what we know now and they had absolutely no idea what aether could be, but after 1928 (Dirac) and especially 1932 (Discovery of the positron)they could have known!

First postulate: Getting rid of aether is the biggest mistake theoretical physicists have ever made in the history of science.

In fact, we are still looking to find the nature of all fields (quantum, magnetic, electric, electromagnetic, gravitational, Higgs, gluon, etc.). Are all of those fields, black matter and dark energy of the same nature? Can all the energy associated with fields be transported by the space-time structure as Einstein mentioned? What is the real nature of this space-time? How can this space-time structure deform if it is mainly composed of void?

At the beginning of the 19th century, Fresnel demonstrated that light is a transversal wave, but Young also mentioned that this is an astonishing conclusion since transversal waves can only spread in solids. This means that aether would be completely solid as a jelly, but how a planet could move without losing energy in a jelly?

And, as many physicists agree, we need a new physic if we want to connect the quantum mechanic for small particles with the general relativity theory of gravitation for big objects. As most of us know, both of these theories work perfectly well in their particular domain, but as soon as we want to connect them together, it fails inevitably. We end up with a division by 0 as a result. The new physic will absolutely have to include both theories and link them together.

(3) INFINITE REFERENTIAL

Have you ever wondered why the two equations from mass energy

$$E=mc^2 \quad (3.1)$$

and kinetic energy

$$E=\frac{1}{2}mv^2 \quad (3.2)$$

are so similar?

Both of these equations are almost the same: Energy equals mass by speed squared. Why energy in matter itself would be almost the same as kinetic energy? Why the $\frac{1}{2}$ difference? Is matter just kinetic energy?

Let's take an everyday object to visualise what I want to demonstrate, for example a pen. According to $E=mc^2$ (3.1), it means that the energy necessary to build all the atoms contained in this pen equal its mass multiplied by the speed of light. Why the speed of light? What is the relationship between my pen and the speed of light? My pen just doesn't have kinetic energy, my pen is built from kinetic energy, my pen is literally kinetic energy. It necessarily means that this pen is going at the speed of light, otherwise the formula doesn't make sense at all. This can't just be a coincidence.

Second postulate: All objects are going at the speed of light.

But if my pen is going at the speed of light, it is compared to what? What is the referential?

To help me resolve this problem, I use one of the Lorentz transformations as:

$$x = v*t / \text{sqr}(1 - (v^2/c^2)) \quad (3.3)$$

x = traveled distance (m)

v = speed of the object (m/s)

t = time (s)

sqr = square root

c = speed of light (299 792 458 m/s) (3.4)

This equation is necessary when looking at objects or particles in two different referential (two different speeds), especially when one of the object is going at near the speed of light. For example, what would be your travelled distance in a second if you could get in a spacecraft that could go at 299 792 457 m/s (just one m/s less than the speed of light).

$$x=299792457*1 / \text{sqr}(1 - (299792457^2/299792458^2)) = 3.67 \text{ E}+12 \text{ m}$$

$$3.67 \text{ E}+12 / c = 12244$$

It means that from your point of view, you would have travelled 12244 times faster than the speed of light. An observer on earth would have taken 3.4 hours to watch your spacecraft for a second of your time.

The nearest star is at 4.2 light years away ($4.2 \times 365 \times 24 \times 3600 \times 299792458 = 3.97 \text{ E}+16\text{m}$). At this speed ($3.67 \text{ E}+12 \text{ m/s}$), your spacecraft could travel to this star in:
 $3.97 \text{ E}+16 / 3.67 \text{ E}+12 = 10820 \text{ seconds} = 3 \text{ hours}$, so 6 hours for a round-trip. But we on earth would be 8.4 years later when you return from your trip.

But what happens when the speed (v) is exactly at the speed of light (c)? We obtain:

$$x = v \cdot t / 0 \quad (3.5)$$

A division by 0 ends up with an error on most of the computers and calculators, and regular mathematicians and physicists usually stop here because they thought they failed. But why stop here? In 1928, Paul Dirac stood tall when his equations told us that energy could also be negative (theoretically antimatter). Most physicists rejected his theory with this eccentric solution, but only 4 years later, positrons were discovered!

The reality is that the answer is the infinite. It means that if we could find an object or a particle that is going at the speed of light, the traveled distance of this object would be infinite. It also means that if you could be such an object going at the speed of light, you could be everywhere at the same time.

Third postulate: Infinite is the reference of our universe.

We could combine the last two postulates and say that all objects and matter in the visible universe are going at the speed of light from infinite.

And the connection between quantum physics and relativity is the infinite also. Why don't we let us agree that infinite is the answer? This simple statement can explain our non-local universe, many times proven by many quantum physics experiments. It also means that our 4D universe is part of a much bigger universe of 5 or more dimensions.

- But what kind of particle is going at the speed of light?
 - o Light itself!

So light is everywhere at the same time from its point of view! Light is non-local. Is that why in many quantum physics experiments, time doesn't seem to have a grasp?

So my pen is going at the speed of light from the infinite. It also means that my pen is slowed down from the infinite. The speed of light is then a speed of deceleration. It makes sense if we think that any two objects going at different speeds in any direction are always at the speed of light from each other. We are always at the speed of light from the infinite whatever our speed or direction is.

Forth postulate: All objects are built from something coming at the speed of light from infinite (at least one more dimension).

The infinite is then the reference of the material universe. So if the infinite is the first reference of the material universe and matter is slowed down at the speed of light, it also means that matter is projected from the infinite! But let me think, if matter is projected from infinite, shouldn't we see this projection? How come we don't see anything? What kind particles could be projected at the speed of light without being detected? And these particles must be enormously dense because these particles we are looking for are responsible for building matter which needs astronomical energy. What in the universe could possibly supply so much energy, at the speed of light, without being detected?

If we look at the standard model and at the matter / antimatter columns, you can notice that photons don't have antiparticles as almost all the other particles have. Why? AND WHY NOT?

If the antiparticle of the photon exists, it could be the particle we are looking for to project energy from the infinite. But the quantity of antimatter photons (that I will later call antiphotonos) must be very, very high. In fact, the quantity of photons in the core of the biggest star in our universe must be very low compared to the quantity of antiphotonos present anywhere in the universe. Now, let's imagine that we are living in the middle of a tremendous amount of antilight coming from every directions of the universe. How could we know it? As soon as a photon hits an antiphoton, it annihilates and creates another photon / antiphoton combo which photon annihilates with another antiphoton and so on and on. Isn't it what we see with the vibration of light!

Is a photon just a sequence of explosions? The more explosions, the more energy the photon has. Isn't it what Max Planck showed us with his formula $E=hv$ (3.6). It means that a photon with more energy would explode more often.

Fifth postulate: A photon is a sequence of explosions (annihilations) from smaller particles we can call photonos and antiphotonos.

So theoretically, physicists are right: a photon is its own antiparticle because it is a sequence of explosions of both antiphotonos and photonos. But photons aren't the smallest particles anymore.

If I combine the two formulas $E=mc^2$ (3.1) and the Planck equation:

$$E = hv \tag{3.6}$$

$$h = 6.62607004 \text{ E-34 joule} \cdot \text{s (Kg} \cdot \text{m}^2 / \text{s)} \tag{3.7}$$

$$v = \text{frequency (hertz or cycles per second)} \tag{3.8}$$

For one explosion only, I get:

$$mc^2 = h \tag{3.9}$$

And:

$$m = h/c^2 \quad (3.10)$$

So weight of a photon and antiphoton combo is:

$$6,62607004 \text{ E-34} / (299792458)^2 =$$

$$7,372497 \text{ E-51 Kg} \quad (3.11)$$

It is the weight corresponding with the energy of a single explosion.

It is this deceleration energy (explosions) that creates matter, mass and inertia.

Sixth postulate: antilight is the aether many physicists were looking for in the 19th century.

(4) ATOMIC NUCLEUS VIBRATION

Vibrations of the nucleus of an atom are probably exploding photonos and antiphotonos. And every object has a wavelength and vibrates according to Louis de Broglie's equation:

$$\lambda = h / p \quad (4.1)$$

λ = Wavelength (m)
h = Planck constant (3.7)

$$p = \text{Momentum} = mv \quad (4.2)$$

m = Mass (Kg)
v = Speed (m/s)

With antiphotonos coming at the speed of light, we also get:

$$\lambda = c / \nu \quad (4.3)$$

By combining the two equations, we get:

$$h / mv = c / \nu \quad (4.4)$$

So:

$$m = h * \nu / c * \nu \quad (4.5)$$

For a frequency of one hertz: $m = 6.626 \text{ E-34} * 1 / c * c = 7.37 \text{ E-51 Kg}$

Thus, the vibration rate matches the explosion rate (3.11).

Seventh postulate: Vibration of the atom's nucleus is caused by antiphotonos annihilations with mattered particles.

(5) GRAVITATION

Let's imagine a perfect cube of iron, 1m side length, weighting 7860 Kg, on the earth's surface. So, what is the gravity force of this cube?

$$F = m * g \quad (5.1)$$

F = Gravitational force: (N) Newton

m = Mass of the iron cube = 7860 Kg

g = acceleration due to gravity of the earth: 9.8 m / s² (5.2)

Radius of earth = 6378 km = 6 378 000 m (meter) (5.3)

Mass of the earth = 5.972 E+24 Kg (5.4)

$$Fg = 7860 \text{ Kg} * 9.8 \text{ m} / \text{s}^2 = 77028 \text{ N} \quad (5.5)$$

According to this antilight theory, the antiphotonos coming from all directions at the speed of light will hit the cube to form its mass, but a small portion of these antiphotonos are intercepted by the earth to build its own mass. This small deficit in the antiphotonos pool creates a vacuum which turns out in a force toward the earth (gravity). The antiphotonos taken by the earth are not there anymore to push against the cube resulting in an unbalanced force.

So let's try to approximate this flow of antiphotonos to explain the gravity force:

Energy of the earth upon $E=mc^2 = 5.972 \text{ E}+24 \text{ (5.4)} * (299792458)^2 \text{ (3.4)} =$

$$5.367 \text{ E}+41 \text{ Joules} \quad (5.6)$$

$$\text{Area of a sphere} = 4\pi r^2 \quad (5.7)$$

Area of earth = $4 * \pi * (6 \text{ 378 000})^2 \text{ (5.3)} =$

$$5.112 \text{ E}+14 \text{ m}^2 \quad (5.8)$$

According to this antilight theory, all mass of the earth is provided by antilight coming from infinite. If we divide the energy of the earth by the surface of the earth, we get:

$5.367 \text{ E}+41 \text{ (result 5.6)} / 5.112 \text{ E}+14 \text{ (result 5.8)} =$

$$1.05 \text{ E}+27 \text{ Joules/m}^2 \quad (5.9)$$

This is the energy of antiphotonos passing through the iron cube to provide energy for the earth. We can also say that this is the amount of antiphotonos missing on the earth's side to provide for our iron cube's atoms.

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So what would be the gravity force on the iron cube if all antiphotonos would come from the opposite side of the earth?

$$\text{Energy from } E=mc^2 = 7860 * (299792458)^2 = 7.064 \text{ E}+20 \text{ Joules} \quad (5.10)$$

To transform energy to a force, we can use the work formula below:

$$W = F*d \quad (5.11)$$

W = Work (Joule)
F = Force (N)
d = displacement (meter)

Work and energy units are the same (Joule)

We need a distance (d) here and the distance we are looking for is the deceleration distance of the antilight. Since almost all the weight of an atom is in the nucleus (protons and neutrons) and this link energy is 99% of the weight, I guess the distance of deceleration must be the average distance between quarks in a baryon.

This distance is about (which is also the diameter of a baryon)

$$0.88 \text{ fm} = 8.8 \text{ E}-16\text{m} \quad (5.12)$$

Then the gravity force if the weight of our iron cube would be alimeted only by the opposite side of the earth by the antilight would be approximately:

$$F = W / d = 7.064 \text{ E}+20 \text{ (value 5.10)} / 8.8 \text{ E}-16\text{m (value 5.12)} = 8.03 \text{ E}+35 \text{ N} \quad (5.13)$$

This is just a theoretical value but it gives us a magnitude of this force which is enormous. This value is much, much more than the actual value of gravity of 77028 N (result 5.5). It means that only a very tiny proportion of antilight has been captured by the earth.

$$\text{And that ratio is only: } 77028 \text{ (result 5.5)} / 8.03 \text{ E}+35 \text{ (result 5.13)} = 9.59 \text{ E}-32 \quad (5.14)$$

So what is amount of antilight at which we are exposed?

We saw that the amount of antiphotonos needed to feed the earth at the earth's surface level is $1.05 \text{ E}+27 \text{ Joules / m}^2$ (result 5.9). If only a proportion of $9.59 \text{ E}-32$ (result 5.14) of antiphotonos are used to feed the earth, it gives us:

$$1.05 \text{ E}+27 \text{ (5.9)} / 9.59 \text{ E}-32 \text{ (5.14)} = \\ 1.09 \text{ E}+58 \text{ Joules / m}^2 \quad (5.15)$$

It is the energy of the antiphotonos we get from the infinite whatever direction it comes from. This energy could also be represented as a mass potential:

$$m = E / c^2 \quad (5.16)$$

$$m = 1.09 \text{ E}+58 \text{ Joules / m}^2 \text{ (5.15)} / (299792458 \text{ m/s})^2 \text{ (3.4)} = \\ 1.21 \text{ E}+41 \text{ Kg / m}^2 \quad (5.17)$$

$$F = m * g \text{ (5.1)} = 1.21 \text{ E}+41 * 9.8 = \\ 1.2 \text{ E}+42 \text{ N / m}^2 \quad (5.18)$$

This is a pressure caused by the complete stop of antilight. In fluid mechanics, we call it dynamic pressure.

Eighth postulate: Dynamic pressure of antilight is: $1.2 \text{ E}+42 \text{ N / m}^2$

Multiplying by $1\text{m} / 1\text{m} : \text{N} * \text{m} / \text{m}^2 * \text{m} = \text{Joules} / \text{m}^3$ which is the energy of the void

$$1.2 \text{ E}+42 \text{ Joules / m}^3$$

But antiphotonos are negative energy, so:

Ninth postulate: Energy of the void is: $-1.2 \text{ E}+42 \text{ Joules / m}^3$ (5.19)

These numbers above are rough approximations based upon standard mechanical engineering. I will let true physicists include quantum and relativity to calculate the exact values of these numbers above which could end up being a little offset.

This tremendous pressure and energy seems too high to be true, but before throwing all this in the garbage can, let's compare this value with the pressure needed to keep protons inside a nucleus.

(6) ELECTROMAGNETISM

Actually, what force could decelerate this powerful antilight? Electromagnetism? Let's see!

The formula needed to calculate the attraction or repulsion force between two electric charges is:

$$F = (1 / 4\pi\epsilon_0) * q1 * q2 / r^2 \quad (6.1)$$

F = force (Newton) (N)

$$\epsilon_0 = \text{vacuum permittivity constant} = 8.854 \text{ E-12 } C^2 / (N * m^2) \quad (6.2)$$

q1 or q2 = charge (Coulomb) (C)

$$\text{The elementary charge is } 1.6 \text{ E-19 } C \quad (6.3)$$

r = distance between 2 charges (meter or m)

(1 / 4 $\pi\epsilon_0$) can be replaced by the constant k =

$$8.99 \text{ E+9 } Nm^2/C^2 \quad (6.4)$$

Formula becomes:

$$F = k * q1 * q2 / r^2 \quad (6.5)$$

For example, in a nucleus of an iron atom there are 26 protons. All of these protons are positives and repellents so what is the repulsive force between one of these protons and the others?

The formula used to calculate the average radius of an atom's nucleus is:

$$R = R_0 * (A \text{ exp } (1/3)) \quad (6.6)$$

R = Radius of the nucleus (m)

$$R_0 = 1.2 \text{ E-15 } m \quad (6.7)$$

A = number of baryons inside the nucleus

So with a regular iron nucleus of 26 protons and 30 neutrons = 56 baryons

$$R = 1.2 \text{ E-15 } * (56 \text{ exp } (1/3)) = 4.6 \text{ E-15 } m \quad (6.8)$$

Using formula (6.5), the force between a proton and the other protons becomes:

$$F = 8.99 \text{ E}+9 \text{ (6.4)} * 1.6 \text{ E}-19 \text{ (6.3)} * 25 * 1.6 \text{ E}-19 \text{ (6.3)} / (4.6 \text{ E}-15)^2 \text{ (6.8)} =$$

$$272 \text{ N} = 27.7 \text{ Kg} = 61 \text{ lbf} \quad (6.9)$$

Can you imagine a force of 61 lbf pushing against a single tiny proton to just barely keep it inside the nucleus? We have to conclude that the linking force needed to keep the nucleus together must be much more than that because an iron nucleus is extremely stable. What is this gigantic force? Could it be this antilight energy? Could the strong nuclear force be the antilight decelerating force or dynamic pressure?

What would be the pressure needed to produce this pushing force on a proton?

$$F = P * A \quad (6.10)$$

F = Force (N)

P = Pressure (N/m²)

A = Surface (m²)

And also,
$$P = F / A \quad (6.11)$$

Diameter of a proton is: 8.8 E-16 m (5.12)

Radius is: 4.4 E-16 m (6.12)

$$\text{Perpendicular surface} = \pi r^2 \quad (6.13)$$

$$\pi * (4.4 \text{ E}-16)^2 =$$

$$6.08 \text{ E}-31 \text{ m}^2 \quad (6.14)$$

So the needed pressure would be: 272 N / 6.08 E-31 =

$$4.5 \text{ E}+32 \text{ N/m}^2 \quad (6.15)$$

Compared to the antilight pressure of 1.2 E+42 N/m² (result 5.18), we can see why this iron atom is so stable. This antilight force is strong enough to explain strong nuclear force and a very big energy particle would be needed to destroy an iron nucleus.

Tenth postulate: The deceleration and complete stop of the antiphotonos are achieved by the electromagnetic force within the atomic nucleus.

- But why so much deceleration doesn't create astronomical heat inside the atom?
 - o Antilight is a negative energy interacting with mattered quarks (positive energy) ending up with a balanced energy.

(7) INERTIA

Why the whole mass of an object is subject to the potential energy:

$$E = mgh \quad (7.1)$$

E = Energy (Joules)

m = Mass of the object (Kg)

g = Acceleration of the earth = 9.8 m/s^2 (5.2)

h = Height of the object (m)

but only half of the mass in the kinetic energy equation $E = \frac{1}{2}mv^2$ (3.2)?

To answer this question, I will use this antilight theory. Let's imagine an object in outer space at a constant speed, for example our cube of iron, but out of our solar system. It will receive as many antiphotonos from any directions resulting in a balanced force since all antiphotonos are coming at the speed of light from all directions. But if we try to accelerate this object, it will still receive antiphotonos at speed of light in front of it, but this speed will be lower behind it (the difference is the acceleration rate). This will result in a force from the front (inertia).

Since in this object, an equal quantity of matter from front and rear are alimeted from antilight, this is why we have the $\frac{1}{2}$ factor in the kinetic energy equation $E = \frac{1}{2}mv^2$ (3.2) since only half of the object is exposed to a lower antilight speed.

This antilight theory represents exactly what is the Higgs field since it has only an effect on accelerating or decelerating objects! Could the Higgs field be nothing more than the antiphotonos flow?

(8) CONCLUSION

This antilight theory, even if it looks very odd, worth the time to look at it thoroughly. The starting idea is promising and could possibly open a whole new perspective in physics which is deeply needed since many years. It could possibly answers a lot of problems of theoretical physics and many areas of physics could possibly be turned upside down and in need of rewrite.

We will have to be very sure before rejecting this theory because if we reject it, we miss a great opportunity to link all 4 fundamental forces, quantum and relativity.

(9) DISCUSSION

What exactly happens inside a nucleus?

- Is the decelerating distance of 0.88 fm good (value 5.12) in the Work formula (5.11)?
 - o Could it be the radius of the nucleus?
 - o Or the radius of the whole atom?

- Is the strong nuclear force just a battle between antilight and electromagnetism?
 - o Instead of linking energy, should we talk about deceleration energy?

- An important fact about quarks is that if we want to separate them, as within a pion, they create another pair of quarks (another pion).
 - o Is it the mechanism used to decelerate antilight?
 - Is it why we cannot have a quark alone?
 - We absolutely need at least 2 quarks to decelerate antilight.
 - o Could baryons be nothing but a place where pions are created at very high rate level?
 - Instead of 3 quarks, could baryons become a mix of constantly created pions?

This antilight could explain or transform a lot of phenomena:

- Is magnetism just a circulation of antilight within a magnet?
 - o It would explain the fact that when you move a magnet, you move also his antilight with it provoking induction in a near wire!

- If this dense antilight fills the whole universe, isn't it normal that gamma photons lose energy over billions of years travel?
 - o Is the red shift just a natural fact?
 - o Does it really mean that distant galaxies are moving away from us as the Doppler effect suggests?
 - o Are dark energy and Big Bang just a creation of human mind?

- Could this dense antilight create a negative gravity?
 - o Does this antilight go through black holes to end its journey in the universe?
 - o Instead of black matter pulling from inside a galaxy, we would have antilight pushing from outside the galaxy!

- Are neutrinos just a grouping of antiphotonos?
 - o Are neutrinos oscillations just a movement of energy within this antilight?
- This antilight could also explain the quantum phenomenon about the interference of a photon or an electron with itself. If the photon is alone, it doesn't make sense at all, but if our universe is filled with antilight, this antilight can easily explain the wave behaviour of a single photon or electron!
- Can we throw the string theory and the loop quantum gravity into the garbage can?
 - o With this antilight theory, they become useless.

Is it possible to destroy this antilight theory and find a way or an experiment that could prove, without any doubts that antiphotonos exist or do not exist?

- Is there something forbidding the presence of a very dense antilight as proposed in this theory?
- What is the particle energy necessary to destroy an iron atom?
 - o Could it be the difference between results (5.18) and (6.15)?
 - o Could this result help validate or destroy this antilight theory!
- Is there an experiment that could prove the existence of gamma antiphotonos (linked by group) or antimatter particles in cosmic rays?
- Is there an experiment that could prove disintegration of radioactive atoms is induced by big antiphotonos grouping?

If we throw away this antilight theory, how can we support field theory?

- Can space-time deformations carry so much energy?

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